

## INDEX

Aa (R. van der), "Papuans and Melanesians," 16  
D'Abbadie (Antoine), Time—Thunderbolts—Vision—Sunglows, 29  
Abdank-Abakanowicz, a New Integrab, 519  
Abercromby (Hon. Ralph), Upper Wind Currents over the Equator, 624  
Aberdeen, on the Occurrence of *Lumpeus lampetiformis* and *Gadiculus argenteus* off, Francis Day, 223  
Aberdeen, Meeting of the British Association at, 437  
Aberystwith, Fire at University College of Wales at, 254  
Abney (Capt.), Lecture Experiments on Colour Mixtures, 263  
Abnormal Development: Dr. J. G. Garson on Abnormal and Arrested Development as an Induction of Evolutionary History, 589  
Aborigines, the "Sakeis" of the Malay Peninsula, 428  
Abstract Science, Sir Lyon Playfair on, 445  
Academy, the Uses of an, 608  
Academy of Science in Indiana, Proposed State, 633  
Acland (Right Hon. Sir Thomas), Review of Agricultural Experiments by the, 362  
Acta Mathematica, 302  
Actinie, on the Chromatology of, Dr. McMunn, 68  
Aéronautics: Proposed Aéronautical Exhibition, 111; Aéronautical Society of Great Britain, 111; Gower's Experiments in Aérial Navigation, 133; Supposed Loss of Mr. F. A. Gower, 329. *See also* Balloons.  
Afghan Boundary Commission, Botany of the, 35  
Afghan Delimitation Commission, 164; Dr. J. E. P. Aitchison, F.R.S., 226  
Afghanistan, the Electric Light in, 134  
Africa: Proposal for Systematisation of Scientific Observation in, Dr. Habenicht, 64; Discovery by Major Serpa Pinto of Coal-Fields in, 164; Projected New African Expedition (Geographical Society), 184; Exploration of the Mabangi River, 281; Proposed New Political Map of, 356; Buonfanti's Journey Across, 357; Dr. Oscar Lenz's Expedition, 357; the Dutch African Expedition, 403; Portuguese Explorations in, 429; the African Natural History Collections of Dr. Nachtigal, 493; Rumoured Massacre of Massari's Italian African Expedition, 493; Discovery by Lieut. Weissmann of Fall of Kassai River into Lake Leopold II., 495; Exploration of Kilima-njaro, 530; Weissmann's Exploration of the Kassai River, 581; Manners and Customs of the Bantu Tribes, 589  
"After-Glows," 239  
After-Images: on Certain Stages of Ocular, H. Frank Newall, 77; Ocular Images and, W. M. Laurin, 197; Ocular, an Lightning, Shelford Bidwell, 101; A. S. Davis, 126  
After-Sunglow at Stockholm, 635  
Agamemnone (Dr.), Experiments on Density of Gases and Air, 48  
Agricultural Experiments by the Right Hon. Sir Thomas Dyke Acland, 362  
"Agricultural Grasses of the United States," Dr. Geo. Vasey, Prof. W. Frear, 525  
Agricultural Note-Book, W. C. Taylor, 623  
Air, Dr. Agamemnone's Experiments on Density of, 48  
Airy (Hubert), a White Swallow, 523  
Aitchison (Dr. J. E. T., F.R.S.), Afghan Delimitation Commission, 226  
Alaska Glacier, Movement of, 162  
Albania, on the Flint-Knappers' Art in, A. J. Evans, F.S.A., 588  
Albanian Coast, Austrian Geographical Survey of, 403  
Aldebaran: Daylight-Occultation of, on May 22, 1868, 86; on July 9, 1885, 183; Occultation of, on November 22, 610  
Alert Expedition to Hudson's Bay, 114; Return of the, 611  
Algeæ, Text-Books on, 101  
Algebra for Schools, Elementary, H. S. Hall and S. R. Knight, 388  
Algebra, Lessons Introductory to the Modern Higher, George Salmon, 411  
Algiers, Proposed Use of Electric Light for Night-work at Harvest, 162  
Algol, Minima of, 86  
Algology of the Black Sea, Reinhardt, 579  
Allen (Alfred H.), "Commercial Organic Analysis," 410  
Allen (F. J.), "Spéciale Physiologie des Embryos," W. Peyer, 267  
Alluard (M.), the Rôle of Wind in Fertilisation, 134  
Alphabet, Greek, found in Italy, Signor Barnabei, 120  
Alpine and Arctic Animals, Colours of, Lorenzo Camerano, 77; Prof. R. Meldola, 172  
Alpine Clubs, Congress of, at Turin, 460  
Alsace, Waterspout in, 134  
Alums, on the Specific Refraction and Dispersion of the, Dr. J. H. Gladstone, 263  
America: American Journal of Science, 67, 116, 358, 567; Was Iron known in America before Columbus?, 110; American Naturalist, 116, 568, 591; American Meteorological Jour-

nal, 181; Meeting of American Association at Ann Arbor, 207, 374, 510; Electricity at, 207; Excursions, 207; American Earthquakes, C. G. Rookwood, 300; American Journal of Mathematics, Pure and Applied, 364; Geology in America, 374; American Ornithologists' Union, 401, 461; American Philosophical Society, 402; the Primitive Peoples of America, Alexander von Humboldt, 464; Mr. Lehmann's Researches into the Flora of Tropical America, 514; Chemical Composition of American Grasses, Clifford Richardson, Prof. W. Fream, 525; H. F. C. Ten Kate, "Reizen en Onderzoeken in Noord-Amerika," Prof. E. B. Tylor, F.R.S., 593; Prehistoric America, Marquis de Nadaillac, Dr. E. B. Tylor, F.R.S., 593; Two Early Italian Adventurers in South America, 376

Ammonia from Blast-Furnaces fed with Raw Coal, the Recovery of, Wm. Jones, 430

Amour, Proposed Russian Scientific Expedition to, 495

Anæsthesia unattended with Sleep, M. Brown-Sequard, 144

Anæsthetic, Mediæval, Lagneau, 301

Analcite Crystals, S. L. Penfold, 554

Analysis, Commercial Organic, Alfred H. Allen, 410

Anatomical Method, Application of, to the Determination of the Materials of the Linnean and Old Herbaria, Prof. L. Radkofer, 563

Anatomy, Dr. Dudgeon's Chinese Translation of Gray's, 514

Anatomy and Physiology, Comparative, F. Jeffrey Bell, 569

Ancestors, Our, 317, 343

Andalusian Earthquakes, on the Causes of the, A. Rzezak, 133

Andaman Islands, Aboriginal Inhabitants of the, Edward Horace Mann and A. J. Ellis, F.R.S., 409

Anderson (Alex.), a White Swallow, 523

Andreae on the Prairies of Guiana, 164

Andrée (Dr.), Was Iron known in America before Columbus?, 110

Andrena (Wild Bees), a Colony of, 6

Andromeda, Nebula in, Lord Rosse, F.R.S., 437; the New Star in, 460, 465; Lord Rosse, F.R.S., 465; Dr. William Huggins, F.R.S., 465; W. F. Denning, 465; J. Edmund Clark, 499; A. A. Common, F.R.S., 522; Geo. M. Scabroke, 523; A. Ricco, 523; Dr. Sophus Tromholt, 579

Andrusoff, Geology of the Kertch Peninsula, 580

Anemogene, Mgr. Rougerie, Bishop of Pamiers, the, 519

Animal Parasites of the Sugar Cane, H. Sing Roth, 268

Animals: the Locomotion of, Dr. Müllenhoff, 496; Colours of Arctic and Alpine, Lorenzo Camerano, 77; Prof. R. Meldola, 172

Annalen der Physik und Chemie, 44, 309, 518

Annual Congress of the Sanitary Institute of Great Britain, 523

Annual Report of the Fishery Board for Scotland, 1884, 281

Antarctic Discovery, Admiral Sir Erasmus Ommanney, F.R.S., 565

Antennæ's Nova of 1670, 355

Anthony's (Prof.) Tangent Galvanometer, 634

Anthropology, 85, 168; Anthropological Institute, 46, 93, 168, 216; Anthropological Society of Vienna, 110; Summary of Anthropology for 1884, 355; Criminal Anthropology, 375; the Races of Brazil, 408; M. de Mortillet on Tertiary Man, 494; Opening Address by Francis Galton, F.R.S., in Section H at the British Association, 507; Prof. W. Turner, on the Index of the Pelvic Brim as a Basis of Classification, 586; W. F. Stanley, on a Portable Scale of Proportions of the Human Body, 586; J. Theodore Bent, on Insular Greek Customs, 587; Gen. Pitt-Rivers, on the Preservation of Ancient Monuments, 587; Miss A. W. Buckland, on American Shell-Work and its Affinities, 587; E. F. im Thurn, on the Red Men about Roraima in British Guiana, 587; J. W. Crombie, on a Game with a History, 587; George Campbell, on the Rule of the Road from an Anthropological Point of View, 587; Jeanie M. Laing, on the Modes of Grinding and Drying Corn in Old Times, 587; A. J. Evans, on the Flint-Knappers Art in Albania, 588; W. M. Flinders Petrie, on the Discovery of Naukratis, 588; Thomas Wilson, on a New Man of Men-tone, 588; Dr. R. Munro, on the Archaeological Importance of Ancient British Lake Dwellings, and their Relation to Analogous Remains in Europe, 588; Prof. D. J. Cunningham, on Certain Points of Comparison between the Chimpanzee and Man, 588; Dr. J. G. Garson, on Abnormal and Arrested Development as an Induction of Evolutionary History, 589; Dr. Robert Laws, on the Manners and Customs of the Bantu Tribes of Lake Nyassa, 589; E. H. Man, on the Nicobar Islanders, 589; American Anthropology, Dr. E. B. Tylor, F.R.S., 593; Anthropometric Instruction for Travellers, Dr. P. Topinard, 615

Anti-Cholera Inoculations of Dr. Ferran, Dr. E. Klein, F.R.S., 617

Antigua, Geology of, Purves, 553

Antiquities of the Isle of Man, Prof. Boyd Dawkins, 579

Ants at Solothurn, Enormous Swarms of, 515

Antwerp International Botanical and Horticultural Congress, 182; Prof. W. R. McNab, F.R.S., 416

Aonest (Violet d'), Meteoric Formations in Mexico, 376

April Meteors, W. F. Denning, 5

Aquarium at the Inventions Exhibition, the, 36; Re-stocking of the, 541; Additions to, 634

Aquatic Animals, Life of, at High Pressure, 399

Arabia, Glaser's Exploration of, 88, 233

Arago (François), Centenary of Birth of, 401

"Araucana," the Historical Value of the, H. Polakowsky, 429

Archæology in India, 634

Archer (M.), "William Hedley, the Inventor of Railway Locomotion on the Present Principle," 595

Archer (T. A.), Prehistoric Burial-Grounds, 548

Archer, on Silk Culture in Siam, 611

Archibald (E. Douglas), Eleven-Year Meridional Oscillation of the Auroral Zone, 414

Archiv für die Naturwissenschaftliche Landesdurchforschung von Böhmen, 113

Arctic Exploration, Return of the *Alert*, 611

Arctic and Alpine Animals, Colours of, Lorenzo Camerano, 77; Prof. R. Meldola, 172

Argyll (Duke of), Iona, 413

Armstrong (G. F.), Appointed Professor of Engineering at Edinburgh, 426

Armstrong (Prof. H. E., F.R.S.), Opening Address in Section B (Chemical Science) at the British Association, 449, 467

Armstrong (H. E.), A. K. Miller on the Products of Gas Manufacture from Petroleum, 286

Arnett (Braithwaite), Euclid, Book I., 221

Aromatic Series, Thermic Studies of the, Berthelot, 592

Aronsohn (Prof.), Physiology of the Sense of Smell, 520

Artesian Well in the Sahara, the, 110

Artificial Earthquakes, 114; T. C. Lewis, 295

Aryas, the European Origin of the, M. van den Gheyn, 114

Asia (Central), the New Route to, M. Belavsky, 113

Asia (Eastern), Rainy Summer in, 461

Asiatic Birds, Hume Collection of, Dr. Albert Günther, F.R.S., 500

Asiatic Cholera, Case of, at Cardiff, 460

Asiatic Society of Bengal, Centenary of, 427

Asiatic Society of Japan, 110

Astronomy: Our Astronomical Column, 13, 37, 86, 112, 162, 183, 231, 280, 301, 355, 402, 553, 610, 636; Astronomical Phenomena for the Week, 14, 38, 65, 86, 113, 134, 162, 183, 209, 232, 255, 281, 301, 330, 356, 377, 403, 428, 463, 495, 516, 542, 554, 581, 611, 636; McCormick Observatory, 13; the Floating Telescope Dome for Nice Observatory, 62; Prof. Zinger on the Determination of Time by Corresponding Heights of Different Stars, 63; the Proposed Change in Time for beginning the Astronomical Day, 132; Popular Education in Astronomy at Christiania, 133; the Question of Civil and Astronomical Time, 245; Belgian Observations of the Transit of Venus in 1882, 254; the Heliometer, 329; Astronomische Gesellschaft, 278, 280; Astronomical and Meteorological Observatories at Pekin, 403; Astronomy in the United States, 460; "Practical Astronomy," Prof. Doolittle, 462; Astronomical Notes, 464; Closing of Beloit College (Wisconsin) Observatory, 514; Astronomical Association, 516; Prof. Weiss on the Present State of Computations of Orbits of Comets, 516; Proposed Change in the Astronomical Day, 233

Astrophysical Notes, 610

Atavism in Man, Dr. R. Blanchard, 615

Atlantic, Chart of Ice in, 302

Atlas of Practical Elementary Biology, G. B. Howes, 388

Atmosphere, Sunlight and the Earth's, S. P. Langley, 17, 40

Atmospheric Air, Extraction of Oxygen and Nitrogen from, 354

Atmospheric Phenomenon, Unusual, Alex. Hodgkinson, 173

Atmospheric Phenomenon in Switzerland, a Remarkable, Prof. Calladon, 426

Atomic Refraction of Sulphur in various Compounds, Nasini, 87

August Meteors, H. B. Jupp, 342; W. F. Denning, 415  
"Auk," the, 461

Auleninæ, the, R. von Lendenfeld, 639

Aurora, the, Prof. J. P. O'Reilly, 54; S. Tromholt, 274, 348; of March 15, 1885, Prof. E. E. Barnard, 78

Aurora Borealis, Photographing the, Carl Siewers, 29; a Note Relating to the History of the, Dr. Sophus Tromholt, 89

Aurora-Sound, Norwegian Testimony to the, Dr. Sophus Tromholt, 499; Value of the Testimony to the, Samuel Sexton, 625

Auroral Zone, Eleven-Year Meridional Oscillation of the, E. Douglas Archibald, 414

Australia: Prof. Auwers' Calculations of Longitude of Places in, 64; the Glacial Period in, Dr. R. von Lendenfeld, 69; the Supposed Glacial Epoch in, Capt. Hutton, 640; on the Rising of the Eastern Coast of, H. C. Russell, 234; Linnean Society of New South Wales, 238; Australian Expedition to New Guinea, 356, 403; Botany in South Australia, 462; Cultivation of Useful Plants in South Australia, 462; the Australian Sponges, R. von Lendenfeld, 639

Austria: Earthquakes in, 11, 85, 460; Industrial Education in, 63; Terrible Snowstorm in, 62; Austrian Alpine Tourist Club, 134; the Temperature of the Austrian Alps, Dr. Hann, 580; Austrian Geographical Survey of Albanian Coast, 403; the Austrian Tourist Club, 88

Auwers (Prof.), Calculations of Longitude of Places in Australia, 64

Avalanche in Iceland, 230

Axes, Stone, Perak, A. Hall, 626

Ayrton (Prof. W. E., F.R.S.), Transmission of Sound, 575

Ayrton and Perry (Profs.), on the Winding of Voltmeters, 215

Azambuya (Graciano A.), Singular Case of Mimicry, 366

Bacillary Phthisis of the Lungs, Germain Séé, 341

Bacteria, Prof. Brieger on the Ptomaines, 239

Bacteriology: the Flora of Bank-Notes, 8

Baeyer (Gen. J. J.), Death of, 578

Bagshot Strata, a General Section of the, Rev. A. Irving, 23

Bailey (Major F.), the Indian Forest School, 564

Baird (Major A. W.), on Levelling Operations of the Great Trigonometrical Survey of India, 530

Baird (Prof. S. F.), "Water-Birds of North America," 521

Baker (Benjamin), Forth Bridge, 430

Baker (B.), Opening Address in Section G (Mechanical Science) at the British Association, 488

Baker (H. B.), Combustion of Phosphorus and Carbon in Oxygen, 87

Baker (J. G., F.R.S.), "Flora of the English Lake District," 75

Baker (W. G.), Magnetism and Electricity, 340

Baldness among Orientals, Herr Schweiger, 36

Ballooning: Centennial Celebration of Blanchard and Jeffries crossing the Channel in Balloon, 85; Balloon Ascent for Photographic Purposes, Gaston Tissandier, 182; Proposed Air-Balloon Railway on the Gaisberg, 254; Application of Electric Lighting to Balloons, 278; Balloon Photography (see also Aeronautics), 420

Baltic, Mirage in the, 112; Recent Rapid Elevation of Shores of, 302

Bamboo, the Square, W. T. Thiselton Dyer, F.R.S., 391

Bank-Notes, the Flora of, 8

Banner System of Drainage, Banner Brothers and Co., 272

Bantu Tribes, Dr. Robert Laws on the Manners and Customs of the, 589

Barium Sulphate, Prof. Frank Clowes on, as a Cementing Material in Sandstone, 555

Barius (Dr.), Death of, 181

Barley-growing successfully attempted in Iceland, 494

Barlow (Peter Wm.), Death of, 84

Barnabei (Signor), a Greek Alphabet found in Italy, 120

Barnaby (Sir Nathaniel), Resignation of the Directorship of Naval Construction, 374

Barnard (Prof. E. E.), Aurora of March 15, 1885, 78

Barnard's Comet, 83, 301, 359

Barograph, the Markings during Thunderstorms of the, Dr. Less, 72

Barometric Variations, Forecasting of, A. N. Pearson, 574

Barrett (Jerry), Monkeys and Water, 367

Barrett (Prof. W. F.), on a New and Simple Form of Calorimeter, 538

Bart (Teisserenc de), Sahara Expedition, 164

Bartoli, the Mean Density of a Body combining all known Elements in a Solid State, 635

Basins, Great Ocean, John Murray, 581, 611

Bass (Black), at Inventions Exhibition, 375

Bastite-Serpentine, Prof. T. G. Bonney, F.R.S., on, in Aberdeenshire, 556

Bat, a New Frugivorous, 374

Bath Natural History and Antiquarian Field Club, 12

Batho-Hypsographical Maps, with Special Reference to a Combination of the Ordnance and Admiralty Surveys, E. G. Ravenstein, 565

Batters (Edw.), Notes on Marine Algeæ, 101

Bayne (Dr. H. A.), the Analysis of Silk, 258

Baynes (Robert E.), Nomenclature in Elasticity, 316

Bedford College for Ladies, 278

Bedfordshire Natural History Society, 182

Beds, Wild, E. Brown, 6

Behrens (Dr. W. J.), "Guide for the Microscopical Investigation of Vegetable Substances," 193; Text-Book of General Botany, 193

Belavsky (M.), the New Route to Central Asia, 113

Belgian Observations of the Transit of Venus in 1882, 254

Belgian Royal Society of Public Medicine, 299

Belgium, Geological Survey of, 154, 199; Dr. A. Geikie, F.R.S., 597

Belgium, Bulletin of Royal Geographical Society of, 209, 356

Belgium, Proposed Excursion of the Geologists' Association to, 298

Bell (Prof. Alex. Graham), Preventing Collisions with Icebergs in a Fog, 273

Bell (Dugald), Among the Rocks round Glasgow, 624

Bell (F. Jeffery), Comparative Anatomy and Physiology, 569

Bell (I. Lowthian), on the Blast-Furnace Value of Coke, 39; Baronetcy Conferred on, 207

Ben Nevis Meteorological Station, 17, 54, 61, 252; Meteorological Observations on, 529; on the Meteorology of, A. Buchan, 536

Benda's (Dr.), Preparations of Sensory and Motory Nerve-Endings, 520

Benevento, Earthquake at, 515

Bengal, Proposed Government Inquiry into Castes and Occupations of People of, 36; Earthquake in, 279, 300; Century of Science in, 638

Bennett (A. W.), Flora of Canada, 294

Bent (J. Theodore), on Insular Greek Customs, 587

Bentham (George), Memorial Portrait of the Late, 513

Berdoe (Edward Robert), Browning as a Scientific Poet, 36

Bergen, Unprecedentedly Early Appearance of Floating Ice off Coast of, 515; Formation of Society for the Advancement of Science at, 580

Berlin; Physiological Society, 24, 71, 119, 191, 239, 330, 496, 519, 544; Physical Society, 72, 95, 160, 311; Geographical Society of, 209; Meteorological Society, 239; International Geological Congress at, 278, 551; International Telegraph Conference at, 353

Bias, Unconscious, in Walking, Manly Miles, 293

Biaxial Crystals, on Cases of the Production of Ohm's (or Langberg's) Ellipses by, H. G. Madan, 414

Bidwell (Shelford): on Certain Spectral Images Produced by a Rotating Vacuum Tube, 30; the Changes Produced by Magnetisation in Length of Metal Rods, 45; Ocular After-Images and Lightning, 101; Variations Caused by Magnetisation in Metal Rods, 167; the Action of Light in Diminishing the Electrical Resistance of Selenium, 167; Experiments with Sulphur Cells, 263; Solid Electrolytes, 391; Voltaic Cell with a Solid Electrolyte, 345

Binary Stars, 162; 70 Ophiuchi, 402

Bingham (Chas.), Nesting of *Micropterus phareps*, 52

Biology: Professorship of, at Madras, 181; the Marine Biological Association, 278; Station at Christiania, 280; an Atlas of Practical Elementary Biology, G. B. Howes, 388; Address on, at the British Association, Prof. W. C. McIntosh, LL.D., F.R.S., 476; Prof. Edward Hull, F.R.S., on the Cause of the Extreme Dissimilarity between the Faunas of the Red Sea and the Mediterranean, notwithstanding their

Recent Connection, 560; Prof. Struthers, on the Tay Whale (*Megaptera longimana*) and other Whales Recently Obtained in the District, 560; Prof. Turner, on Some Points in the Anatomy of Sowerby's Whale, 560; Prof. Struthers, on the Cervical Vertebrae of the Greenland Right Whale, 560; Prof. Struthers, on the Development of the Vertebrae of the Elephant, 560; Prof. Struthers, on the Development of the Foal of the Horse, 560; Prof. Cleland, on the Viscera of *Gymnotus electricus*, 561; Prof. Cleland, on the Spiracle of Fishes in its Relation to the Head, as Developed in the Higher Vertebrates, 561; D. J. Hamilton, Is the Commensural Theory of the Corpus Callosum Correct?, 561; Alex. Hill, on the Evidence of Comparative Anatomy with regard to Localisation of Function in the Cortex of the Brain, 561; Prof. M'Kendrick, on the Action of Cold on Microphytes, 561; J. J. Coleman, on the Action of Ozonised Air upon Micro-Organisms and Albumen in Solution, 561; Prof. Bower, on the Use of Graphic Representations of Life-Histories in the Teaching of Botany, 562; Prof. J. Berry Haycraft, on a New Theory of the Sense of Taste, 562; Francis Day, on the Hybridisation of Salmonidae at Howietoun, 562; A. Hosie, on Chinese Insect White Wax, 562; Prof. O. C. Marsh, on the Size of the Brain in Extinct Animals, 562; D'Arcy W. Thompson, on the Systematic Position of the Chamberlain and its Affinities with the Dinosauria, 562; Prof. Hull, on the Origin of the Fishes of the Sea of Galilee, 563; Prof. McIntosh, on the St. Andrews Marine Laboratory, 563; Dr. Oscar Loew, on a Chemical Difference between Living and Dead Protoplasm, 563; Sidney Martin, on the Digestion of Proteids in Plants, 563; Prof. L. Radlkofer, on the Application of the Anatomical Method to the Determination of the Materials of the Linnean and Old Herbaria, 563; M. Ward, Notes on Experiments as to the Formation of Starch in Plants under the Influence of the Electric Light, 563; Allen Harker, on the Coloration of the Anterior Segments of the Maldanidae, 564; Proposed Marine Stations on the Coast of the United Kingdom, 566

Biondi (Prof.), Investigations on the Origin of the Spermatozooids, 544

Bird, the New, in Natal, J. E. Harting, 6

Birds, Wingless, Dr. H. Woodward, F.R.S., 46

"Birds of Lancashire," F. S. Mitchell, 241

Birds, Migratory, Early Departure from Sweden of, 427

Birds, Asiatic, Hume Collection of, Dr. Albert Günther, F.R.S., 500

Birds, on the Development of the Sternum in, Miss B. Lindsay, 540

Birkbeck Institution, Opening of New Buildings, 230

Bischoffstein's Floating Telescope Dome for Nice Observatory, 62

Bisulphide, Carbon, in Prisms, on the Use of, Experiments by the late Dr. Henry Draper, 272

Bituminous Deposits of the Camama Basin of Bahia, Report on the, Cameron, 182

Black (Dr. W. L.), Ozone at Sea, 416

Black Dog (the Rock), Prof. T. G. Bonney, F.R.S., on Bastite-Serpentine and Troktolite in Aberdeenshire; with a Note on the Rock of the Black Dog, 556

Black Sea, Algology of the, Reinhardt, 570

Black and White, Col. Wm. E. Warrant, 245

Blackfoot Tribes, Report on, 531

Blanchard (Dr. R.), Atavism in Man, 615

Blanford (W. T., F.R.S.), Zoology of Dr. Riebeck's "Chittagong Hill Tribes"—the Gayal and Gaur, 243

Baschko (Dr.), Sensitiveness of Hair, 24; Microscopic Preparation showing Absence of Cementing Substance between Epidermis and Cutis, 544

Blast Furnace Value of Coke, I. Lowthian Bell, 39

Blast Furnaces fed with New Coal, the Recovery of Tar and Ammonia from, Wm. Jones, 430

Blindness, the Causes and the Prevention of, Dr. Ernst Fuchs, 623

Blumentritt (Prof.), on the Negritos of the Philippines, 232

Bochefontaine's Experiment on the Origin of Cholera, Trécul, 496

Bohemia, Science in, 308

Boiling-Point Data, Melting and, T. Carnelley, 364

Boisbaudran (M. Lecoq de) and W. Crookes, F.R.S., Radiant Matter Spectroscopy, 283

Boissier (Edmond), Death and Obituary Notice of, 540

Bokhara, Rev. Dr. Henry Lansdell on, 194

Bolles (Arthur), Microtomist's Vade-Mecum, Dr. E. Klein, F.R.S., 147

Bolton (H. C.), Catalogue of Scientific Periodicals, 426

Bolton (Prof.), Sonorous Sand, 400

Boltzmann's Theorem on the Kinetic Theory of Gases, 533

Bombay, Meteorology of, 170

Bombicci, Theoretical Views on the Detonation of Meteorites, 633

Bompas (George), "Life of Frank Buckland," Rev. W. Tuckwell, 385

Bonatelli (Signor), the Unthinkable, 120

Bonney (Prof. T. G., F.R.S.), the Diorite of Little Knott, 189; on Bastite-Serpentine and Troktolite in Aberdeenshire, with a Note on the Rock of the Black Dog, 556; Preliminary Note on some Traverses of the Crystalline District of the Central Alps, 557

Boosé (J. R.), Colonial Public Libraries, 183

Boring, Deep, at Richmond, Surrey, Notes on, Prof. Judd, F.R.S., and C. Homersham, 310

Borneo, British, Gold in, 161; Minerals of, 161

Botany: and the Afghan Boundary Commission, 35; Staminody of Petals, 53; the Chair of Botany at Glasgow University, 61; a Course of Practical Instruction in Botany, F. O. Bower and Sydney H. Vines, 73; Bower and Vines's Work on Phanerogamae-Pteridophyta, 73; Antwerp International Botanical and Horticultural Congress, 182; Text-Book of General Botany, Dr. W. J. Behrens, 193; Dr. W. J. Behrens's Microscopical Investigation of Vegetable Substances, 193; Food-Plants used by the Katchin Tartars of Minusinsk, 208; a Specific Subject of Instruction in Public Elementary Schools, Vincent T. Murché, 222; Dr. Trimen's Catalogue of the Flowering Plants and Ferns of Ceylon, 354; International Botanical and Horticultural Congress, Antwerp, 1885; Prof. W. McNab, F.R.S., 416; Botany in South Australia, 462; on the Use of Graphic Representations of Life-Histories in the Teachings of Botany, Prof. Bower, 562; Botanical Gardens in Java, Dr. Sydney J. Hickson, 576; Botanical Exploration of the Chilian Andes, 601; Thomas Hick on the Caulotaxis of British Fumariaceæ, 614; Botanical Exchange Club, 635

Bothnia, Rapid Fall of Water in Gulf of, 515

Bottomey (J. T.), Electric Resistance of Platinoid, 166; Cooling of Wires in Air and Vacuum, 536

Bouquet (M.), Death of, 493

Boulenger (Geo. Albert), Catalogue of Lizards in the British Museum, 49

Boulger (G. S.), "Epping Forest," Edward North Buxton, 28

Bower (F. O.), and Sydney H. Vines, "A Course of Practical Instruction in Botany," 73; on the Use of Graphic Representations of Life-Histories in the Teachings of Botany, 562

Bowman (Dr. F. H.), "The Structure of the Wool Fibre in its Relation to the Use of Wool for Technical Purposes," 266

Boyd (Thomas), Death of, 357

Boys (C. V.), the Slide Rule, 627

Bozward (J. L.), a White Swallow, 523

Brachytarsus, Undescribed Species of, 6

Brain, Evidence of Comparative Anatomy with Regard to Localisation of Function in the Cortex of the, Alex. Hill, 561

Brain, Motor-Centres of the, and the Mechanism of the Will, Victor Horsley, 377

Brain-Weight, Dr. P. Rey, 615

Brain, Size of, in Extinct Animals, Prof. O. C. Marsh, 562

Bramwell (Sir F.), the Training of the Civil Engineer, 11

Braut (Lieut. L.), Death of, 426

Brazil: Report on the Bituminous Deposits of the Camama Basin of Bahia, Cameron, 182; Geographical Society of Rio de Janeiro, 356; the Races of Brazil, 408

"Breccia Gashes" near Sunderland, 559

Breidden Hills, the Geology of the, W. W. Watts, 310

Bremen Geographical Society, 233

Brewer (Dr. T. M.), "Water-Birds of North America," 521

Bridge, Forth, Benjamin Baker, 430

Brieger (Prof.), on the Potomacines, 239

Briggs (Mary), a White Swallow, 500

Bristol Naturalists' Society, 463

Bristol, the Chair of Physics and Engineering at University College, 514

BRITISH ASSOCIATION: Meeting at Aberdeen, 10, 437; Officers, &c., 10, 34, 61, 110, 298, 352, 400; Arrangements in Sec-

tion A, 181; General Arrangements, 437; Excursions, 437; Inaugural Address of the President, the Right Hon. Sir Lyon Playfair, K.C.B., M.P., F.R.S., 438; Notes for the Opening of a Discussion on Electrolysis, to be held in Section B, by Prof. Oliver Lodge, 451; General Proceedings, 466; *Conversazioni*, 466; Excursion to Balmoral, 467; Grants, 502; President for 1886, 502; Next Meeting to be at Birmingham, 503

*Reports of Committees.*—Report on the Proposed Publication of Daily Synoptic Charts of the Indian Ocean from 1861, 502; Second Report of the Committee on the Best Methods of Recording the Direct Intensity of Solar Radiation, 502; Third Report of the Committee for the Harmonic Analysis of Tidal Observations, 503; Second Report of the Committee appointed for Co-operating with Mr. E. J. Lowe in his project of establishing a Meteorological Observatory near Chepstow, 503; Report of the Committee for Promoting Tidal Observations in Canada, 503; Seventeenth Report of the Committee for Investigating the Rate of Increase of Underground Temperature downwards in various Localities of Dry Land and under Water, 503; Report of the Committee on the Fossil Plants of the Tertiary and Secondary Beds of the United Kingdom, 504; Report of the Committee for the Investigation of the Volcanic Phenomena of Vesuvius, 505; Report of the Committee for arranging for the Occupation of a Table at the Zoological Station at Naples, 506; Report of the Committee for Establishing Marine Biological Stations on the Coast of the United Kingdom, 506; Report of the Committee for Promoting the Survey of Palestine, 506; Report of the Committee on the Earthquake Phenomena of Japan, 526; Report of the Committee on Electrical Standards, 528; Report on Electrical Theories, Prof. J. J. Thomson, 528; Report on Standards of White Light, 529; Report of the Committee on Meteoric Dust, 529; Report of the Committee on Meteorological Observations on Ben Nevis, 529; Report of the Committee on Solution, 529; Report of the Committee on the Ultra-Violet Spark Spectra Emitted by Metallic Elements, 529; Third Report of the Committee on Chemical Nomenclature, 529; Report of the Committee on the Rate of Erosion of the Sea-Coasts of England and Wales, 530; Report of the Committee for Exploring Kilima-njaro and the adjoining Mountains of Equatorial Africa, 530; Report of the Committee on the North-Western Tribes of Canada, 531; Report on the Blackfoot Tribe, 531

*Section A (Mathematical and Physical Science).*—Opening Address by the President, Prof. G. Chrystal, M.A., F.R.S.E., 446; Prof. Crum Brown, on the Kinetic Theory of Gases, 533; Sir William Thomson, on Constant Gravitational Instruments, 535; Prof. Osborne Reynolds, on the Dilatancy of Media Composed of Rigid Particles in Contact, 535; Prof. Pirie, on Calculating the Surface-Tensions of Liquids by Means of Cylindrical Drops or Bubbles, 536; Prof. Pirie on the Surface-Tension of Water which contains a Gas Dissolved in it, 536; Lord Rayleigh, on the Thermodynamic Efficiency of Thermopiles, 536; J. Larmor, on Molecular Distances in Galvanic Polarisation, 536; J. T. Bottomley, on Cooling of Wires in Air and Vacuum, 536; Major A. W. Baird, on Levelling Operations of the Great Trigonometrical Survey of India, 536; Mr. A. Buchan, on the Rainfall of the British Islands, 536; W. H. Preece, on a Remarkable Occurrence during the Thunderstorm of August 6, 1885, 536; A. Buchan, on the Meteorology of Ben Nevis, 536; Dr. Courtenay Fox, on the Sequence of Mean Temperature and Rainfall in the Climate of London, 536; W. H. Preece, on Domestic Electric Lighting, 537; Discussion on Standards of White Light, 537; A. Vernon Harcourt, on Photometry with the Pentane Standard, 537; Prof. W. M. Hicks, on the Constitution of the Luminiferous Ether on the Vortex Atom Theory, 537; J. Joly, on a Photometer made with Translucent Prisms, 537; R. T. Glazebrook, F.R.S., on a Point in the Theory of Double Refraction, 538; Prof. W. F. Barrett, on a New and Simple Form of Calorimeter, 538

*Section B (Chemical Science).*—Opening Address by the President, Prof. H. E. Armstrong, Ph.D., F.R.S., 449, 467; Prof. Ramsay, on the non-existence of Gaseous Nitrogen Trioxide, 538; Prof. Ramsay, on some Actions of a Grove's Gas Battery, 538; Sir H. E. Roscoe, F.R.S., on the Spontaneous

Polymerisation of Volatile Hydrocarbons at the Ordinary Atmospheric Temperatures, 538; J. T. Brierley, on New Vanadium Compounds, 538; T. Jamieson, on the Essential Food of Plants, 538; Prof. Odling, a Plea for the Empiric Naming of Organic Compounds, 538; Prof. T. Carnelley, on the Periodic Law, as illustrated by certain Physical Properties of Organic Compounds, 539; Prof. T. Carnelley, on the Cause of the Periodic Law, and the Nature of the Chemical Elements, 539; Dr. J. H. Gladstone, on the Value of the Refraction Goniometer in Chemical Work, 539; G. Gladstone, on the Refraction of Fluorine, 539; Prof. Gilbert, on the Conditions of the Development and of the Activity of Chlorophyll, 539; Prof. Pardie, on the Action of Sodium Alcohohates on Fumaric and Maleic Ethers, 539; on Sulphine Salts derived from Ethylene Sulphide, Dr. Orme Masson, 539; on an apparently New Hydrocarbon from Distilled Japanese Petroleum, by Dr. Divers and T. Nakamura, 539; the Composition of Water by Volume, Dr. A. Scott, 539; Prof. Dewar, on Solutions of Ozone and the Chemical Action of Liquid Oxygen, 540; F. Maxwell Lyte, on the Use of Sodium or other Soluble Aluminates for Softening and Purifying Hard and Impure Water, and Deodorising and Precipitating Sewage, Waste Water from Factories, &c., 540; J. Spiller, on Some New Crystallised Combinations of Copper, Zinc, and Iron Sulphates, 540; Prof. Clowes, on Barium Sulphate as a Cementing Material for Sandstone, 540

*Section C (Geology).*—Opening Address by the President, Prof. J. W. Judd, F.R.S., 453, 472; Hugh Miller, on some Results of a Detailed Survey of the Old Coast-Lines near Trondhjem, Norway, 555; Dr. J. C. Howden, on the Glacial Deposits of Montrose, 555; G. H. Kinahan, on Irish Metamorphic Rocks, 555; Prof. Frank Clowes, on Barium Sulphate as a Cementing Material in Sandstone, 555; W. Whitaker, on Deep Borings at Chatham: a Contribution to the Deep-seated Geology of the London Basin, 555; Sir Richard Owen, F.R.S., on American evidences of Eocene Mammals of the "Plastic Clay" Period, 556; Dr. Max Schuster, on some Results of the Crystallographic Study of Danburite, 556; Edward Hull, F.R.S., Notice of an Outline Geological Map of Lower Egypt, Arabia Petraea, and Palestine, 556; Dr. R. H. Traquair, F.R.S., a Preliminary Note on a New Fossil Reptile recently discovered at New Spynie, near Elgin, 556; Rev. E. Hill, on the Average Density of Meteorites compared with that of the Earth, 556; Prof. Edward Hull, F.R.S., on the Occurrence of Lower Old Red Conglomerate in the Promontory of the Fanad, North Donegal, 556; Prof. T. G. Bonney, F.R.S., on Bastite-Serpentine and Troktolite in Aberdeenshire, with a Note on the Rock of the Black Dog, 556; Lieut.-Col. Playfair, on the Re-discovery of Lost Numidian Marbles in Algeria and Tuni, 556; Prof. A. Renard, on some Rock-Specimens from the Islands of the Fernando Noronha Group, 556; Prof. T. G. Bonney, F.R.S., a Preliminary Note on some Traverses of the Crystalline District of the Central Alps, 557; Prof. H. Carvill Lewis, on the Direction of Glaciation as ascertained by the Form of the Striae, 557; B. N. Peach and J. Horne, on the Geology of Durness and Eriboll, with Special Reference to the Highland Controversy, 558; Chas. Lapworth, on the Highland Controversy in British Geology—its Causes, Course, and Consequences, 558; W. Ivison Macadam, on Certain Dicotomous Deposits (Diatomite) from the Peat of Aberdeenshire, 559; Prof. G. A. Lebour, on some Recent Earthquakes on the Downham Coast, and their Probable Causes, 559; Prof. H. Carvill Lewis, on some Examples of Pressure-Fluxion in Pennsylvania, 559

*Section D (Biology).*—Opening Address by the President, Prof. W. C. McIntosh, LL.D., F.R.S., 476; Prof. Edward Hull, F.R.S., on the Cause of the Extreme Dissimilarity between the Faunas of the Red Sea and the Mediterranean notwithstanding their Recent Connection, 560; Prof. Struthers, on the Tay Whale (*Megaptera longimana*) and other Whales Recently Obtained in the District, 560; Prof. Turner, on Some Points in the Anatomy of Sowerby's Whale, 560; Prof. Struthers, on the Cervical Vertebrae of the Greenland Right Whale, 560; Prof. Struthers, on the Development of the Vertebrae of the Elephant, 560; Prof. Struthers, on the Development of the Foot of the Horse, 560; Prof. Cleland, on the Viscera of *Gymnophorus aculeatus*,

561 ; Prof. Cleland, on the Spiracle of Fishes in its Relation to the Head, as Developed in the Higher Vertebrates, 561 ; D. J. Haughton, Is the Commissural Theory of the Corpus Callosum Correct ?, 561 ; Alex. Hill, on the Evidence of Comparative Anatomy with Regard to Localisation of Function in the Cortex of the Brain, 561 ; Prof. M'Kendrick, on the Action of Cold on Microphytes, 561 ; J. J. Coleman, on the Action of Ozonised Air upon Micro-Organisms and Albumen in Solution, 561 ; Prof. Bower, on the Use of Graphic Representations of Life-Histories in the Teaching of Botany, 562 ; Prof. J. Berry Haycraft, on a New Theory of the Sense of Taste, 562 ; Francis Day, on the Hybridisation of Salmonidae at Howietown, 562 ; A. Hosie, on Chinese Insect White Wax, 562 ; Prof. O. C. Marsh, on the Size of the Brain in Extinct Animals, 562 ; D'Arcy W. Thompson, on the Systematic Position of the Chameleon and its Affinities with the Dinosauria, 562 ; Prof. Hull, on the Origin of the Fishes of the Sea of Galilee, 563 ; Prof. McIntosh, on the St. Andrews Marine Laboratory, 563 ; Dr. Oscar Loew, on a Chemical Difference between Living and Dead Protoplasm, 563 ; Sidney Martin, on the Digestion of Proteids in Plants, 563 ; Prof. L. Radkofer, on the Application of the Anatomical Method to the Determination of the Materials of the Linnean and Old Herbaria, 563 ; M. Ward, Notes on Experiments as to the Formation of Starch in Plants under the Influence of the Electric Light, 563 ; Allen Harker, on the Coloration of the Anterior Segments of the Maldanidae, 564

**Section E (Geography).**—Opening Address by the President, Gen. J. T. Walker, F.R.S., 481 ; Major F. Bailey, on the Indian Forest School, 564 ; A. Hosie, on Journeyings in South-Western China, 564 ; Admiral Sir Erasmus Ommanney, F.R.S., Antarctic Discovery, 565 ; Cope Whitehouse, on Projected Restoration of the Reian Mœris, and the Province, Lake, and Canals ascribed to the Patriarch Joseph, 565 ; E. G. Ravenstein, on Batho-Hypsographical Maps, with Special Reference to a Combination of the Ordnance and Admiralty Surveys, 565 ; H. A. Webster, What has been done for the Geography of Scotland, and what remains to be done, 565 ; John Rae, F.R.S., a Word or Two on the Best and Safest Route by which to Attain a High Northern Latitude, 566

**Section G (Mechanical Science).**—Opening Address by the President, B. Baker, M.Inst.C.E., 488

**Section H (Anthropology).**—Opening Address by the President, Francis Galton, F.R.S., 567 ; Prof. W. Turner, on the Index of the Pelvic Brim as a Basis of Classification, 586 ; W. F. Stanley, on a Portable Scale of Proportions of the Human Body, 586 ; J. Theodore Bent, on Insular Greek Customs, 587 ; Gen. Pitt-Rivers, on the Preservation of Ancient Monuments, 587 ; Miss A. W. Buckland, on American Shell-Work and its Affinities, 587 ; E. F. im Thurn, on the Red Men about Roraima in British Guiana, 587 ; J. W. Crambie, on a Game with a History, 587 ; George Campbell, on the Rule of the Road from an Anthropological Point of View, 587 ; Jeanie M. Laing, on the Modes of Grinding and Drying Corn in Old Times, 587 ; A. J. Evans, on the Flint-Knappers' Art in Albania, 588 ; W. M. Flinders Petrie, on the Discovery of Naukratis, 588 ; Thomas Wilson, on a New Man of Mentone, 588 ; Dr. R. Munro, on the Archaeological Importance of Ancient British Lake Dwellings, and their Relation to Analogous Remains in Europe, 588 ; Prof. D. J. Cunningham, on Certain Points of Comparison between the Chimpanzee and Man, 588 ; Dr. J. G. Garson, on Abnormal and Arrested Development as an Induction of Evolutionary History, 589 ; Dr. Robert Law, on the Manners and Customs of the Bantu Tribes of Lake Nyassa, 589 ; E. H. Man, on the Nicobar Islanders, 589

British Birds, History of, William Yarrell's, New Edition, 363

British Dairy Farming, James Long, Prof. John Wrightson, 571

British Islands, on the Rainfall of the, A. Buchan, 536

British Fumariaceæ, the Caulotaxis of, Thomas Hick, 614

British Medical Association, 299

British Museum : Catalogue of Lizards in the, Geo. Albert Boulenger, 49 ; Catalogue of Fossil Mammalia in the, Part I, Richard Lydekker, 53 ; Part II, the Reviewer, 78 ; Mr. Allan Hume's Ornithological Collection (India) presented to the, 327 ; a Guide to the Universal Gallery of the (Natural History), L. Fletcher, 364

British New Guinea, "Torresia," a Proposed Name for, 357

"British Rainfall for 1884," G. J. Symons, 463

"Broca" Prize, the, 165

"Bronn's Clasen und Ordnungen des Thierreichs," Prof. Bütschli, Prof. E. Ray Lankester, 145

Brookville, Indiana, Natural History Society of, 208

Brown (Prof. Crum), the Kinetic Theory of Gases, 352, 533

Brown (E.), Wild Bees, 6

Brown-Sequard (Dr.), Anæsthesia unattended by Sleep, 144

Biennial Prize of Paris Academy of Sciences awarded to, 208

Browning (Robert) as a Scientific Poet, Edward Berdoe, 36

Bruce (Eric S.), Application of Electric Lighting to Balloons, 278

Brunton (Dr. T. Lauder, F.R.S.), "Text-Book of Pharmacology, Therapeutics, and Materia Medica," Prof. Arthur Gamgee, F.R.S., 337

Brussels, Exhibition of Plans, &c., connected with Inland Navigation at, 35

Brussels Railway Congress, the, 401

Buchan (A.), on the Meteorology of Ben Nevis, 536 ; on the Rainfall of the British Islands, 536

Buchanan (J.), Thermo-Electric Position of Carbon, 263

Buchanan (J. Y.), Observations of the Temperature of the Sea and Air made during a Voyage from England to the River Plate in the s.s. *Leibnitz*, 126

Buckland (A. W.), on American Shell-Work and its Affinities, 587

Buckland (Frank), Life of, Geo. Bompas, Rev. W. Tuckwell, 385

Buckton (G. B., F.R.S.), Notes on the Action of the Wimshurst Induction Machine, 51

Buildings, Earthquake-, Prof. Wm. Muir, 245 ; D. A. Stevenson, 316

Bulletin de l'Académie Royale de Belgique, 68, 189, 358, 568

Bulletin of the Bussey Institution, Prof. John Wrightson, 195

Bulletin of the Philosophical Society of Washington, 358

Bulletin de la Société d'Anthropologie de Paris, 68, 165, 166, 615

Bulletin de la Société des Naturalistes de Moscou, 44

Buonfanti's (Marquis), Journey across Africa, 357 ; Death of, 376

Burbidge, on the Culture of Edelweiss in Great Britain, 208

Burder (Geo. F.), Red Rays after Sunset, 466

Bureau, Scientifique Central Néerlandais, 428

Bureaus, Scientific, of the U. S. Government, Co-ordination of the, 317

Burial-Grounds, Prehistoric, T. A. Archer, 548

Burmah, Italian Scientific Expedition to, 87

"Burnett Lectures, Second Course. On Light as a Means of Investigation," Prof. G. G. Stokes, F.R.S., Prof. P. G. Tait, 361

Busch (Prof.), Anomalies in Human Teeth, 71

Bu-sey Institution, Bulletin of the, Prof. John Wrightson, 195

Butleroff (Prof.), on the Phenomena of Isomerism, 87

Bütschli's "Protozoa," Prof. E. Ray Lankester, F.R.S., 145

Buxton (Edward North), "Epping Forest," G. S. Boulger, 28

Cables, Chain, and Chains, Thos. W. Traill, 572

Cæcilias, Development of the, 526

Caillaud (Romanet du), Life and Travels of Ordóñez de Cevallos, 88

Cailliet (M. L.), New Process of Liquefying Oxygen, 584

Calcutta, Earthquake in, 254, 279

California, Fourth Annual Report of the State Mineralogist of, H. G. Hanks, 100

Calladon (Prof.), a Remarkable Atmospheric Phenomenon in Switzerland, 426

Calorimeter, on a New and Simple Form of, Prof. W. F. Barrett, 538

Cambodians at Paris, Arrival for Study of Thirteen Young, 636

Cambrelen (M.), the Sand-hills of Gascony, 375

Cambridge Observatory, 253

Camelopardi, Double-Star 19 (Hev.), 183

Camerano (Lorenzo), Colours of Arctic and Alpine Animals, 77

Came on (J. M.), Report on the Bituminous Deposits of the Camamu Basin of Bahia, 182

Campbell (George, M.P.), on the Rule of the Road, from an Anthropological Point of View, 587

Canada: the Ancient Sacrificial Stone of North-Western Territory of, Jean L'Heureux, 46; Canadian Entomology, James Fletcher, 111; Mesozoic Floras of the Rocky Mountain Region of, Sir W. Dawson, F.R.S., 164; Geological and Natural History Survey of, Alfred R. C. Selwyn, F.R.S., 242; Catalogue of Canadian Plants, John Macoun, 242; Royal Society of Canada, 258; Flora of, Alfred W. Bennett, 294; the British Association Visit to, 438; Tidal Observations in, 503; North-Western Tribes of, 531

Cape Town, Earthquake in, 110

Capello (Capt.) and Commander Ivens, African Explorations of, 429

Carbon Bisulphide in Prism, on the Use of, Experiments by Dr. Henry Draper, 272

Carbon, Combustion of, in Oxygen, H. B. Baker, 87

Carbon Compound, Researches on the Relation between the Molecular Structure and Absorption Spectra of, by Prof. W. N. Hartley, F.R.S., 93

Carbon, Thermo-Electric Position of, J. Buchanan, 263

Carbonic Acid, the Absorption on Smooth Glass Surfaces of, Dr. Kayser, 72

Carbonic Acid, Decomposition by Electric Spark of, H. B. Dixon and H. F. Lowe, 287

Carcinoma in Lungs, Dr. Friedländer, 191

Carey (Albert), Principles of Hygiene, 221

Carles' Journeys in Corea, 403

Carnelley (T.), Melting and Boiling-Point Data, 364

Carniola, the Fossil Flora of, Baron von Ettingshausen, 311

Caroline Islands, the, 464

Carp, German, Importation into England of, 553

Carp-Culture in China, Dr. Macgowan, 514

Carpenter (Alfred), Flying-Fish, 147

Carpenter (P. Herbert), an Encysting Myzostoma in Milford Haven, 391

Carter (W. A.), Do Fish Sleep?, 580

Cashmere, the Earthquake in, 110, 133, 161, 207, 254, 375

Casman (M.), Death of, 376

Cassell's "Encyclopædic Dictionary," 355

Catalogue of 1000 Southern Stars, 636

Catfish, Acclimatisation of, 254, 375

Caucasus, Earthquake in, 161

Cell, Daniell, a Form of Standard, Dr. J. A. Fleming, 263

Cells, Sulphur, Experiments with, Shelford Bidwell, 263

Cemetery, Prehistoric, 518

Cemetery of the Stone Age, Discovery of a, 401

Centenarians: Entry of Prof. Chevreul on his Hundredth Year, 425

Central Alps, Prof. T. G. Bonney, F.R.S., Preliminary Note on some Traverses of the Crystalline District of the Central Alps, 557

Central Asia, Earthquakes in, 375

Central Solar Eclipses in New Zealand, 86

Centres, Motor, of the Brain and the Mechanism of the Will, Victor Horsley, 377

Century of Science in Bengal, 638

Cereals, Origin of the, 116; Growth of, 234

Cerebotani (Dr. L.), a New Instrument for Distance-Measurement, 494

Cerebral Lobes, on the Weight of the, Dr. Philippe Rey, 615

Cerebrum, a Vasomotor Centre in the Cortex of, Dr. Kaudnitz, 119

*Crura vinula*, Larvae of, Cyril B. Holman Hunt, 574

Cervical Vertebrae of the Greenland Right Whale, Prof. Struthers, 560

Cevallos (Ordoñez de), Life and Travels of, 88

Ceylon, Dr. Trimen's Catalogue of the Flowering Plants and Ferns of, 354

Chadwick (Herbert C.), "Foul Water," 245

Chaffianjon's Mission on the Orinoco, 184

Chain Cables and Chains, Thos. W. Trail, 572

Challenger, Voyage of the, Reports on the Scientific Results of the, 203, 249

Chamæleon, Systematic Position of the, and its Affinities with the Dinosauria, D'Arcy W. Thompson, 562

Chambers (G. F.), Obituary Notice of the, Rev. T. W. Webb, 126

Champs (Breton des), Death of, 513

Charbon Fever, Inoculation against, A. Chauveau, 264

Chareyre (J.), Cystoliths, 407

Chatham, W. Whitaker on Deep Borings at, 555

Chauveau (A.), Inoculation against Charbon Fever, 264

Chemistry: A Treatise on Practical and Qualitative Chemistry, and Inorganic Analysis, Frank Clowes, 3; Original Researches in Chemistry and Mineralogy, J. Lawrence Smith, 3; Chemical Notes, 87; Chemical Reactions, Influence of Dilution and Excess on, Urech, 87; Chemical Society, 93, 143, 168; Organic Chemistry, Prof. Ira Remsen, M. M. Pattison Muir, 99; Contributions to the Chemistry of Chlorophyll, Edward Schunck, F.R.S., 117; Opening of Laboratory at Reading School, 328; Address at the British Association on, by Prof. H. E. Armstrong, Ph. D., F.R.S., 449, 467; Nucleine, Dr. Kossel, 520; Chemical Composition of American Grasses, Clifford Richardson, Prof. W. Fream, 525; Prof. Ramsay, on the Non-Existence of Gaseous Nitrogen Trioxide, 538; Prof. Ramsay, on some Actions of a Grove's Gas Battery, 538; Sir H. E. Roscoe, on the Spontaneous Polymerisation of Volatile Hydrocarbons at the Ordinary Atmospheric Temperatures, 538; J. T. Brierley, on New Vanadium Compounds, 538; T. Jamieson, on the Essential Food of Plants, 538; Prof. Odling, a Plea for the Empirical Naming of Organic Compounds, 538; Prof. T. Carnelley, on the Periodic Law, as illustrated by certain Physical Properties of Organic Compounds, 539; Prof. T. Carnelley, on the Cause of the Periodic Law, and the Nature of the Chemical Elements, 539; Dr. J. H. Gladstone, on the Value of the Refraction Goniometer in Chemical Work, 539; G. Gladstone, on the Refraction of Fluorine, 539; Prof. Gilbert, on the Conditions of the Development and of the Activity of Chlorophyll, 539; Prof. Pardie, on the Action of Sodium Alcohohates on Fumaric and Maleic Ethers, 539; on Sulphine Salts derived from Ethylene Sulphide, Dr. Orme Masson, 539; on an apparently New Hydrocarbon from Distilled Japanese Petroleum, by Dr. Divers and T. Nakamura, 539; the Composition of Water by Volume, Dr. A. Scott, 539; Prof. Dewar, on Solutions of Ozone and the Chemical Action of Liquid Oxygen, 540; F. Maxwell Lyte, on the Use of Sodium or other Soluble Aluminates for Softening and Purifying Hard and Impure Water, and Deodorising and Precipitating Sewage, Waste Water from Factories, &c., 540; J. Spiller, on Some New Crystallised Combinations of Copper, Zinc, and Iron Sulphates, 540; Prof. Clowes, on Barium Sulphate as a Cementing Material for Sandstone, 540; Chemical Nomenclature, 529; Cholesterin, Dr. Weyl, 544

Chesapeake Zoological Laboratory, the, 400

Chevreul (M. E.), Celebration of the Hundredth Birthday of, 278, 425, 462

Childhood, the Three First Years of, Bernard Perez, W. Odell, 412

Chili, the Reported Discovery of a Glacier in, 184

Chilian Andes, Botanical Exploration of the, 601

Chimpanzee: Prof. D. J. Cunningham on Certain Points of Comparison between the Chimpanzee and Man, 588

China: Chinese Insect Wax, R. McLachlan, F.R.S., 6; A. Hosie, 562; School Books in Chinese, 35; Earthquakes in China, 37, 231; Meteorology of the China Seas, 84; the Jesuit Meteorological Establishments near Shanghai, 579; Potanin's Last Voyage to, 135; Chinese Translation of Gray's Anatomy and Holder's Osteology, Dr. Dudgeon's, 514; Carp-Culture in China, Dr. Macgowan, 514; the Red River Route to, 554; Journeys in South-Western China, by A. Hosie, 564

Chittagong Hill Tribes, Dr. Emil Riebeck, 169; Zoology of, Dr. Riebeck's—the Gayal and Gaur, W. T. Blanford, F.R.S., 243

Chlorate of Potash, Iridescent Crystals of, Prof. G. G. Stokes, 224

Chlorophyll, Contributions to the Chemistry of, Edward Schunck, F.R.S., 17

Chlorophyll, Colourless, C. Timiniazoff, 342

Cholera: Inoculation for, Dr. Ferran's Experiments, 62, 85, 159, 288; the Nature of Cholera, Dr. Cornish, 160; the Report on the Germ Theory of Cholera, 353; Jackdaws and the Cholera, 400; on an Alkaloid Extracted from Liquid used in Cultivation of Koch's Cholera Microbe, A. G. Pouchet, 432; Case of Asiatic Cholera at Cardiff, 460; Bochefontaine's Experiment on the Origin of Cholera, Trécol, 496; on the Development of Cholera in India, Gustave Le Bon, 543; Conclusions of the Commission on, 608

Cholesterin, Dr. Weyl, 544  
 Christiania, Popular Education in Astronomy at, 133; Society of Science, 120, 216; Zoological Garden for, 553  
 Christy (Thos.), New Commercial Plants and Drugs, 125  
 Chronometer Observatories of Kiel and Hamburg, 230  
 Chronometry: Prof. Zinger on the Determination of Time, by Corresponding Heights of Different Stars, 63; the Proposed Change of Time for beginning the Astronomical Day, 132  
 Chrystal (Prof. G.), Opening Address in Section A (Mathematics and Physical Science) at the British Association, 446  
 Chung K'ang, Eclipse of, 276  
*Cicada septendecim*, Prof. Riley, 253  
 Cincinnati Observatory, 356  
 Circles, Hut, Worthington G. Smith, 29  
 Cirrus Clouds, the Mean Direction over Europe of, Dr. Hildebrandsson, 190  
 City and Guilds of London Institute, 328; Studentships at, 354  
 Civil and Astronomical Time, the Question of, 245  
 Clark (J. Edmund), New Star in Andromeda, 499; Prof. Kiessling's Investigations of the late Sunset Glows, 637  
 Clark (J. W.), on Certain Cases of Electrolytic Decomposition, 167; Radiant Energy Recorder, 343  
 Clarke (Dr. Hyde), Pre-Existence and Post-Existence of Thought, 102; Possible Windfall for Science, 342  
 Claus (Dr. C.), "Elementary Text-Book of Zoology," 122  
 Clayton (J.), Evolution of Vegetation, 223  
 Cleland (John), Composite Portraits, 197  
 Cleland (Prof.), Viscera of *Gymnotus electricus*, 561; on the Spiracle of Fishes in its Relation to the Head as developed in the Higher Vertebrates, 561  
 Clifford (Prof. W. K.), His Papers and MSS., R. Tucker, 4; "The Common Sense of the Exact Sciences," Prof. P. G. Tait, 124, 196  
 Clifford's Kinetic, R. Tucker, 147  
 Clifford (Prof.) and Prof. Tait, 173  
 Clifton Hall Colliery Explosion, the, 181  
 Climate, Influence of Forests on, 115  
 Climatology, Woelck's "Climates of the Globe," 11  
 Cloud-Measurement by Theodolites, 400  
 Clouds, Heights of, 630  
 Clowes (Prof. Frank), "A Treatise on Practical Chemistry and Qualitative Inorganic Analysis," 3; on Barium Sulphate as a Cementing Material in Sandstone, 555  
 Coal, the Coking of, 39  
 Coal, Petroleum Gas used for Manufacturing Purposes instead of, 463  
 Coal-Dust, Experiments with, at Neunkirchen, in Germany, W. Galloway, 55  
 Coal-Dust Theory of Colliery Explosions, 61  
 Coal-Fields, the North Wales and Shrewsbury, D. C. Davies, 118  
 Coal-Fields in Africa, Discovery by Major Serpa Pinto of, 164  
 Coal Tar Colours, Dr. Perkin on the, 503, 330  
 Cobbold (Paul A.), Remarkable Sunset, 626  
 Cobra di Capello, on the Poison of the, Herr Gnezd, 71  
 Coke, the Blast-Furnace Value of, I. Lowthian Bell on, 39; the Coking of Coal, 39  
 Coleman (J. J.), Action of Ozonised Air upon Micro-Organisms and Albumen in Solution, 561  
 Collet (Lieut.), Practical Guide for Compensation of Compasses without Bearings, 386  
 Collett (Dr. R.), Observations on Rudolphi's Whale, 374  
 Colliery Explosion, the Clifton Hall, 181  
 Colliery Explosions, the Coal-Dust Theory of, 61  
 Collisions, Preventing, with Icebergs in a Fog, Prof. Alex. Graham Bell, 273; J. Joly, 367  
 Cologne, Opening of Direct Steam Traffic between the Open Sea and, 164  
 Colonial Exhibition, Fish in the, 515  
 Colonial Public Libraries, J. R. Boose, 183  
 Colorado, Science in, 330  
 Coloration of the Anterior Segments of the Maldanidae, Allen Harker, 564  
 Colour Mixtures, Lecture Experiments on, Capt. Abney, F.R.S., 263  
 Colour-Sense, on the, Major Allan Cunningham, 604  
 Colour, Sense of, Margaret Heaton, 626  
 Colourless Chlorophyll, C. Timiriazeff, 342  
 Colours of Arctic and Alpine Animals, Lorenzo Camerano, 77; Prof. R. Meldola, 172  
 Colours, Coal Tar, Dr. Perkin on the, 503, 330  
 Comberbatch (Vice-Consul), Report on the Dobrudja, 64  
 Combustion of Phosphorus and Carbon in Oxygen, H. B. Baker, 87  
 Comets: Tuttle's, 13, 301, 402; Tempel's, 1867 II., 37, 356; Tempel-Swift Comet (1869-80), 112; Periodical Comets of De Vico and Barnard, 153; Periodical Comets in 1886, 636; Comet of 1472, 231; the New Comet, 280, 464; Barnard, July 7, 301, 359; Comet of 1652, 402; on the Present State of Computations of Orbits of Comets, Prof. Weiss, 516; Elements of Brook's Comet, R. Radau, 543; the Comet of 1866, and the Meteors of November 14, 610; Cometary Orbits, 162  
 "Commercial Organic Analysis," Alfred H. Allen, 410  
 Commercial Plants and Drugs, New, Thos. Christy, 125  
 Commissural Theory of the Corpus Callosum, Is it Correct?, D. J. Hamilton, 561  
 Commodore Islands, the Resources of the, Dr. Dybovsky, 113  
 Common (A. Ainslie, F.R.S.), New Star in Andromeda, 522  
 Common Sense of the Exact Sciences, Prof. W. K. Clifford's, Prof. P. G. Tait, 124, 196  
 "Comparative Anatomy and Physiology," F. Jeffrey Bell, 569  
 Compensation of Compasses without Bearings, Practical Guide for, Lieut. Collet, 386  
 Complexion, Proportion of German, &c., School Children with Dark and Fair, 85  
 Composite Portraits of Members of the National Academy of Sciences, U.S.A., Raphael Pumpelly, 176  
 Compo-ite Portraits, John Cleland, 197; Dr. C. M. Ingleby, 224  
 Compound Locomotive, 197  
 Conreau's (H.) Journeys in Guiana, 164  
 Congo, the Henry M. Stanley, 154; Grenfell's Explorations in the Congo Basin, 302; Lieut. Wissmann's Congo Explorations, 554  
 Congress, National Sanitary, 50  
 Connor (Rochfort), Microscopic Drawings, 633  
 Constant Gravitational Instruments, Sir William Thomson, F.R.S., 535  
 Cooke (Dr. J. P.), "Scientific Culture," 426  
 Co-ordination of the Scientific Bureaus of the U.S. Government, 317  
 Copenhagen, University of, Lady Students at, 355  
 Coral Reefs and Islands, the Origin of, Jas. D. Dana, 554  
 Coral Trade, the Mediterranean, 36  
 Corea, Carles' Journeys in, 403; Discovery of Gold in, 403; Proposed Telegraph Lines in, 427  
 Corn: Jeanie M. Laing on the Modes of Grinding and Drying Corn in Old Times, 587  
 Cornish (Dr.), the Nature of Cholera, 160  
 Cornwall, Occurrence of *Torpedo marmorata* off the Coast of, Francis Day, 197  
 Corpus Callosum, Is the Commissural Theory of the, Correct?, D. J. Hamilton, 561  
 Cortex Cerebri on the Temperature of Human Body, on the Influence of, Prof. Eulenburg, 496  
 Corvo (L. de A.), Tuberculosis in the Vine, 496  
*Corvus japonensis*, H. Pryer, 110  
 Cosmogony, the Relations between Geological Epochs and the Stages of the Terrestrial, M. Faye, 132  
 Costa Rica, Dr. Polakowsky's Explorations in, 184  
 Costerus (J. C.), Staminody of Petals, 53  
 Cotopaxi, Eruption of, 375, 428  
 Crane, Message from General Gordon borne to Sweden by a, 208  
 Crannogs of Scotland and Ireland, Dr. R. Munro on, 588  
 Cremation of a Body in a Common Stove, Experiment on, 161  
 Cremation, Refusal of Austrian Government to authorise Private Societies for, 161  
 Cremona's (Prof.) "Projective Geometry," 62  
 Crepuscular Light, 239; the Cosmic Origin of, 359; Hirn on, Faye, 432  
 Crévaux Expedition, Thouar's Journey in Search of, 14  
 Croall (Alexander), Death of, 111  
 Croft (Chas.), Rainbow Phenomenon, 30  
 Crombie (J. W.), on a Game with a History, 587

Crookes (W., F. R. S.) and M. Lecoq de Boisbaudran, Radiant Matter Spectroscopy, 283

Cross-Fell, the Helm-Wind of, 23

Crystallography: Dr. Max Schuster on some Results of the Crystallographic Study of Danburite, 556

Crystals, Iridescent, of Potassium Chlorate, H. G. Madan, 102; Prof. G. G. Stokes, 224

Cunningham (Prof. D. J.), on Certain Points of Comparison between the Chimpanzee and Man, 588

Cunningham (Major Allen), on the Colour-Sense, 604

Cunningham (J. T.), Reports of the United States Commission of Fish and Fisheries for 1881-1882, 79; Scottish Marine Station, 176; Resting Position of Oysters, 597

Curator, a Lady, E. L. Layard, 30

"Curiosity-shop" Beds of New Zealand, Correlations of, Capt. Hutton, 311

Curtis (J. S.), Silver-Lead Deposits of Eureka Nevada, 50

Cycle, Meteoric, and Stonehenge, R. Edmonds, 436

Cyclones: in United States, 328; in Sweden, 355; on a Supposed Periodicity of Cyclones of the Indian Ocean South of the Equator, Chas. Meldrum, F.R.S., 613; on the Cyclonic Character of the Solar Spots, Faye, 495

Cystoliths, J. Chareyre, 497

Dagincourt (Dr.), "Annuaire Géologique Universel et Guide du Géologie autour de la Terre," 436

Dairy Farming, British, James Long, Prof. John Wrightson, 571

Dana (Jas. D.), the Origin of Coral Reefs and Islands, 554

Danburite, Dr. Max Schuster on some Results of the Crystallographic Study of, 556

Danish Expedition to Greenland, 164, 256; Return of the, 554

Darwin Medal, Award of, 230

Darwin Memorial, 61, 84, 121

Davidson (Dr., F.R.S.), Death of, 607

Davies (D. C.), the North Wales and Shrewsbury Coal Fields, 118

Davis (A. S.), Ocular After-Images and Lightning, 126

Davis Lectures on Zoological Subjects, the, 132

Dawkins (Prof. W. Boyd, F.R.S.), Contributions to the History of the Pliocene and Pleistocene Deer, 118; the Antiquities of the Isle of Man, 579

Dawson (Sir William, F.R.S.), on the Mesozoic Floras of the Rocky Mountain Region of Canada, 164; President of the British Association for 1886, 502

Day (Francis), the Male Sole is not Unknown, 78; Occurrence of *Torpedo marmorata* off the Coast of Cornwall, 197; on the Occurrence of *Lumpenus lampetraformis* and *Gadus arcturus* off Aberdeen, 223; Hybridisation of Salmonidae at Ilowietoun, 522

Day, Proposed Change in Time for beginning the Astronomical, 132

Daylight-Occultation of Aldebaran on May 22, 1868, 86, 183

"Decomposition" of Didymium, the, Dr. C. A. von Welsbach, 435

Deep Borings: W. Whitaker on Deep Borings at Chatham, 555

Deer, Contributions to the History of the Pliocene and Pleistocene, W. B. Dawkins, F.R.S., 118

Deering (W. H.), Plutarch on Petroleum, 29

Definitions, Electrical, Nomenclature and Notations, Prof. Andrew Jamieson, 184

Degrees in Europe, Publication of the Norwegian Commission of the Measurement of (Geodesy), 547

Dehérain (P. P.), Experiments to ascertain most Productive Kind of Wheat, 496

"Deinocerata, a Monograph of an Extinct Order of Gigantic Mammals," Prof. O. C. Marsh, Dr. Arch. Geikie, F.R.S., 97

Delimitation Commission, Afghan, Dr. J. E. T. Aitchison, F.R.S., 226

Demeny and Marey, the Mechanism of the Pump, 432

Denning (W. F.), Meteors, 597; April Meteors, 5; July Meteors, 342; August Meteors, 415; Jupiter, 31; Recurrence of Markings on Jupiter, 196; Red Spot on Jupiter, 626; Mars, Jupiter, and Saturn, 548; the New Star in Andromeda, 465; Fireball, 466

Density of Gases and Air, Dr. Agamemnon's Experiments on, 48

Density, Mean, of a Body combining all Known Elements in a Solid State, Bartoli, 635

Determinants, Text-Books of, "Lecciones de Coordinaria con las Determinantes y sus principales aplicaciones," D. Antonio Suarez y D. Luis G. Gascó, 411

Détremants, Traité Élémentaire des, L. Lebouilleux, 411

Determinanten, für den ersten Unterricht in der Algebra bearbeitet, die, Dr. H. Kaiser, 411

Development of the Cecilians, 526

De Vico and Barnard, Periodical Comets of, 183

Devonian Insects of New Brunswick, 53

Devonian System of Russia, 307

Diatomite, W. Ivison Macadam on Certain Diatomaceous Deposits (Diatomite) from the Peat of Aberdeenshire, 559

Dictionary, English, Philological Society's, 159

Dicyclodon in the Triassic Sandstone of Elgin, Presence of the Remains of, Prof. J. W. Judd, F.R.S., 572

Dicyclodontia, New Fossil Species of, 556

Didymium, the "Decomposition" of, Dr. C. A. von Welsbach, 435

Dieulafoy, Application of Thermo-Chemistry to Explanation of Geological Phenomena, 592

Dilatation of Liquids, on Formulae of, Prof. Mendeleeff, 87

Dinosaura, Systematic Position of the Chameleon, and its Affinities with the D'Arcy W. Thompson, 562

Diorite of Little Knott, the, Prof. T. G. Bonney, F.R.S., 189

Disinfection of Sewers, Dr. Italo Giglioli, 415

Distance-Measurement, New Instrument for, Dr. L. Cerebotani, 494

Dixon (H. B.), Decomposition of Carbonic Acid by Electric Spark, 287

Dobrudja, Report on the, Vice-Consul Comberbatch, 64

Docks, Harbours and, L. F. Vernon-Harcourt, 291

Dogfish at Inventions Exhibition, Breeding of, 254; at Royal Aquarium, Ova of, 515

Douai, Earthquake at, 207

Dohrn (Dr. A.), on Zoological Research, 43

Donaldson's Observations on Temperature-Sense, 111

Doolittle (Prof.), "Practical Astronomy," 462

Dorsetshire, Mirage in, Rev. M. F. Billington, 552

Douai, Earthquake at, 207

Double-Stars, 610; 19 (Hev.) Camelopardi, 183; Double-Star Measures, 86

Downing (A. M. D.), Proposed Change in the Astronomical Day, 523

Drainage, Banner System of, Banner Brothers and Co., 272

Draper (Dr. Henry), Experiments made by, on the Use of Carbon Bisulphide in Prisms, 272

Drawing of a Mammoth, an Old, Baron A. E. Nordenskjöld, 228

Drugs, Plants and New Commercial, Thos. Christy, 125

Dudigeon's (Dr.), Chinese Translations of Gray's Anatomy and Holden's Osteology, 514

Duncan (Prof. O. M., F.R.S.), on the Ambulacra of Fossil Echinoidea, 69

Dundee, Proposed School of Medicine in, 254

Dunes of Gascony, the, Cambrelent, 375

Durness: B. N. Peach and J. Horne, on the Geology of Durness and Eriboll, with Special Reference to the Highland Controversy, 558

Dutch African Expedition, the, 403

Dutch Expedition to New Guinea, Proposed, 87

Dutch Geographical Society, 16

Dutch West Indian Expedition, Departure of, 16

Dybovsky (Dr.), the Resources of the Commodore Islands, 113

Dyer (W. Thiselton, F.R.S.), the Square Bamboo, 391

Dynamical Theory of Gases, 352

Dynamics, a Self-Recording Stress and Strain Indicator, Prof. H. S. H. Shaw, 70

Dynamite, the Blowing up of Hell Gate with, 552

Dynamo, on the Self-Regulation of the Compound, Prof. A. W. Rucker, 22

Earth's Atmosphere, Sunlight and the, S. P. Langley, 17, 40

Earth, Vegetation of the, A. Grisebach, W. Botting Hemsley, 315; Dr. W. Engelmann, 366

Earthquakes, 574; in Austria, 11, 460; in Austria and Smyrna, 85; of November 14, 1884, at Pu-erh, in China, the, 37; at Cape Town, 110; on the Causes of the Andalusian, A. Rzezhak, 133; in Caucasus, 161; Recent Earthquakes, William Scarnell Lean, 175; J. Lovell, 175; at Douai, 207; at Dognies, 207; at Flers-en-Éscrebieux, 207; at Ca-hmre, May 13, 110, 133, 161, 207, 375; in Cashmere and Calcutta, 254; at Koprinitz, in Styria, 231; Chinese Theory of the Origin of, 231; in Bengal, 279, 300; at Velez-Malaga, 279; Teneriffe, 300; Recent, in Switzerland, F. A. Forel, 295; American, C. G. Rookwood, 300; at Fishpeck, 329; in Spain, 329; in Central Asia, 375; in Styria, 427; in Indian Archipelago, 427; at Benevento, 515; in Ferghana, 515; in Japan, 526; at Granada and Palermo, 609; Submarine, at New York, 495; Prof. G. A. Lebour on some Recent Earthquakes on the Downham Coast and their Probable Causes, 559; Artificial, 114; T. C. Lewis, 295; an Earthquake Invention, 222; Prof. C. Piazzi Smyth, 213, 625; D. A. Stevenson, 213; Prof. John Milne, 573; Fouqué's Electrical Apparatus for registering Propagation of, 254; Frequencies, Dr. Knott, 299; Earthquake-Proof Buildings, Wm. Muir, 245; D. A. Stevenson, 316

Earth-Tips and Earth-Tremors, on the Observation of, Prof. John Milne, 259

Eastern Archipelago, Naturalist's Wanderrings in the, Alfred R. Wallace, 218

Ebonite, Photographic Action on, Edward E. Robinson, 626

Echinoidea, on the Ambulacra of Fossil, Prof. P. Martin Duncan, F.R.S., 69

Eclipses: Central Solar, in New Zealand, 86; of Chung K'ang, 276; of August, 1886, 296; of the Sun, Recent Total, 631

Edelweiss in Austria, Agitation for Protection of the, 134; its Culture in England, 208

Edinburgh: Royal Society, 10, 70, 94, 190, 311, 384; Royal Physical Society, 119; Mathematical Society, 168, 263; Chair of Comparative Embryology at, 327; Honorary Degrees Conferred by the University of, 353; G. F. Armstrong appointed Professor of Engineering at, 426; Edinburgh International Industrial Exhibition, 541

Edmonds (R.), Meteoric Cycle and Stonehenge, 436

Education: School-Books in Chinese, 35; Higher Education for Adults, 36; Industrial, in Austria and Russia, 63; Education in Tunis, 134; Female Education in Russia, 162; Education in the United States, 518; the Neglect of Science in Public Schools, 552

Edwards (Henry Milne-), Obituary Notice of, 321

Eels at Vincennes, Emigration of, 111

Egypt, Prehistoric Stone Implements of Eastern, Dr. Schweinfurth, 161; W. M. Flinders Petrie's Collection of Egyptian Antiquities, 353

Eklund (Prof. A. W.), Death of, 207

Elasticity, Terminology of the Mathematical Theory of, W. J. Ibbetson, 76; Nomenclature in, Prof. Alex. B. W. Kennedy, 269; Robert E. Baynes, 316; Measurement of the "Modulus" of, Dr. König, 360

Electricity: at the Inventions Exhibition, 106; "Secondary Generators" of Messrs. Gaulard and Gibbs at the Inventions Exhibition, 225; "On Charging Secondary Batteries," W. H. Preece, F.R.S., 142; Experiments with Sulphur Cells, Shelford Bidwell, 263; a Form of Standard Daniell Cell, Dr. J. A. Fleming, 263; Molecular Radiation in Incandescent Lamps, Dr. J. A. Fleming, 263; Decomposition of Carbonic Acid by, H. B. Dixon and H. F. Lowe, 287; Terminology of the Mathematical Theory of, William Sutherland, 391; Henry Muirhead, 437; on the Origin of Thunderstorm, Prof. L. Sohncke, 406; Magnetism and Electricity, W. G. Baker, 340; Electric Resistance of Platinoid, J. T. Bottomley, 166; Electrical Resistance of Selenium, the Action of Light in Diminishing, Shelford Bidwell, 167; Nomenclature and Notation of Electrical Definitions, Prof. Andrew Jamieson, 184; Electrical Engineering at University College, Professorship of, 253; Electrical Phenomena, J. B. A. Watt, 316; in Mid-Lothian, Dr. Robert Lucas, 343; Electrical Apparatus, 401; Electrical Standards, B. A. Report on, 528; Electrical Theories, Prof. J. J. Thomson, 528; Electro-Magnetic Theory of Light, Sir William Thomson and Maxwell's, Prof. George Francis Fitzgerald, 4; Electro-Magnetic Wave, on a Model illustrating the Propagation of the, Prof. S. P. Thompson, 70

Electric Lighting, 608; in Afghanistan, 134; Proposed Use for Night Harvest Work in Algiers, 162; in Paris, 514; on Domestic Electric Lighting, W. H. Preece, F.R.S., 536; Electric Lighting of Fishing Boats, 553; Notes on Experiments as to the Formation of Starch in Plants under the Influence of the Electric Light, M. Ward, 563

Electrolysis, Notes for the Opening of a Discussion on, to be held in Section B, at the British Association in Aberdeen, September, 1885, by Prof. Oliver Lodge, 458

Electrolyte, Voltaic Cell with a Solid, Shelford Bidwell, 345, 391; Prof. Silvanus P. Thompson, 366

Electrolytic Decomposition, on Certain Cases of, J. W. Clark, 167

Elephant, on the Development of the Vertebrae of the, Prof. Struthers, 560

Eleven-Year Meridional Oscillation of the Auroral Zone, E. Douglas Archibald, 414

Elgin, Presence of the Remains of Dicynodon in the Triassic Sandstone, of Prof. J. W. Judd, F.R.S., 572

Elkin (Dr.), Investigations with the Heliometer, 329

Ellis (A. J., F.R.S.), Aboriginal Inhabitants of the Andaman Islands, 409

Ellis (Herbert), Are there Rabbits in the Western Islands? 575

Embryo, Physiology of the, W. Preyer, F. J. Allen, 267

Embryology, Chair of Comparative, at Edinburgh University, 327; Dr. J. G. Garson on Abnormal and Arrested Development as an Induction of Evolutionary History, 589

"Encyclopedic Dictionary," Cassell's, 355

Encysting Myzostoma in Milford Haven, P. Herbert Carpenter, 391

Endowment for Research, the New, Chas. Sedgwick Minot, 297

Endowment of Research in Norway, 207

Energy Recorder, Radiant, Prof. J. W. Clark, 233, 343

Engelmann (Dr. W.), Grisebach's "Vegetation of the Earth," 366

Engineer, the Training of the Civil, Sir F. Bramwell, 11

Engineering (Electrical) at University College, Professorship of, 253

Engineering at Edinburgh, G. F. Armstrong appointed Professor of, 426

England, Rainfall of N.W., Alf. O. Walker, 271

English Lake District, Flora of the, J. G. Baker, F.R.S., 75

Ensilage, 605

Enterochlorophyll, Dr. McMunn, 69

Entomology, 253; "The Earliest Winged Insects of America," 53; Canadian Entomology, James Fletcher, 111; Fossil Entomology, Herbert Goss, 190; Entomological Society, 216; Charter granted to, 353; Lepidoptera of Great Britain and Japan compared, 427

Eocene Mammals, Sir Richard Owen, F.R.S., on American Evidences of, 556

Epidermis and Cutis, Absence of Cementing Substance between, Dr. Blaschko, 544

"Epping Forest," Edward North Buxton, 28; G. S. Boulger, 28

Equator, Upper Wind Currents over the, Hon. Ralph Abercromby, 624

Eriboll: B. N. Peach and J. Horne on the Geology of Durness and Eriboll, with special reference to the Highland Controversy, 558

Erosion of Sea-Coasts, 530

Errera (Léo), the Value of Indian Ink in Microscopy, 37

Esparto Grass in Australia, Cultivation of, 462

Essex Field Club, 34, 299, 330, 513

Ethnology: Government Inquiry into Castes and Occupations of the Bengalese, 36; Formosan Ethnology, 346

Ettingshausen (Baron von), the Fossil Flora of Carniola, 311

"Euclid and his Modern Rivals," 171

Euclid, Book I., Braithwaite Arnett, 221; Key to the Elements of, J. S. Mackay, 388

Eulenburg (Prof.), on the Influence of Cortex Cerebri on Temperature of Human Body, 496

Eureka, Nevada, Silver-Lead Deposits of, J. S. Curtis, 50

Evans (A. J., F.S.A.), on the Flint-Knappers' Art in Albania, 588

Evans (C.), Red Hail, 54

Evaporation, Measurement of, Geo. Haslam, 357

Evolution of the Phanerogams, MM. Marion and Saporta, J. Starkie Gardner, 289; Prof. W. C. Williamson, F.R.S., 364

Evolution of Vegetation, J. Clayton, 223

Ewald (Prof.), Lactic Acid in the Gastric Juice, 24

Exact Sciences, Clifford's Common Sense of the, Prof. P. G. Tait, 124, 196

Excursions et Reconnaissances de Saigon, 88

Exhibition of Labour at Paris, 401

Experimental Farming, 224; on a Field at Rothamsted, Prof. J. Wrightson, 58

Explorations, Recent, of the Pamir, 59

Explosion, the Hell-Gate, 575; and Rackarock, Dr. H. Sprengel, F.R.S., 625

Eyes, Insects', Mr. Lowne on the Morphology of, Dr. E. A. Schäfer, F.R.S., 3

Fairlie (Robert F.), Death of, 328

Farming, British Dairy, James Long, Prof. John Wrightson, 571

Farming, Experimental, 224

Faeroe Islands: Disappearance of a well-known Landmark, "The Monk," 404

Fascine Dwellings in Europe, 588

Fat, Formation in the Animal Body, Dr. J. Munk, 335

Fauna, Freshwater, Silesian, Dr. P. Zacharias, 160

Fauna of Russian Central Asia, Rev. Dr. Henry Lansdell, 56

Fauna of the Seashore, Prof. H. N. Moseley, F.R.S., 212, 417; Arthur R. Hunt, 243, 399; W. R. Hughes, 294

Fauna of Shallow Seas, Influence of Wave-Currents on the, Arthur R. Hunt, 547

Fauna of Trans-Alay, 335

Faye (M.), 61; the Stadia of the Earth's History, 132; "Sur l'Origine du Monde," 132; Typhoons, 408; Hirn on Crepuscular Lights, 432; on the Cyclonic Character of the Solar Spots, 495

Féa (M. Leonardo), Expedition to Burmah, 87

Feilberg's (Col.), Exploration of Pilcomayo River, 64

Ferghana, Earthquakes in, 515

Fernando Noronha (Islands), Prof. A. Renard, on some Rock Specimens from the, 556

Ferran's (Dr.), Experiments on Inoculation for Cholera, 62; Conclusions of the Commission on, 608; Dr. E. Klein, F.R.S., on, 617

Fertilisation, the Rôle of Wind in, M. Alluard, 134

Fibre, Structure of the Wool, in its Relation to the Use of Wool for Technical Purposes, Dr. F. H. Bowman, 265

Fidget, the Measure of, 174

Field Club, Bath Natural History and Antiquarian, 12

Field Club, the Essex, 34

Field Experiments at Rothamsted, Prof. J. Wrightson, 58

Fifeshire, Discovery of a Cemetery of the Stone Age in, 401

Films, Liquid, Prof. A. W. Rücker, F.R.S., 210

Filter Paper, Spreading of Various Saline Solutions on, J. U. Lloyd, 87

Finite and Real, a New Example of the Use of the Infinite and Imaginary in the Service of the, Prof. J. J. Sylvester, F.R.S., 103

Finmarken, Norwegian Expedition to, 114

Finsbury Technical College, *Conversations* at, 278; Studentships at, 354

Finsch (Dr.), Return of, 252

Fireball, W. F. Denning, 466

Firth of Forth, Temperature of Water in, H. R. Mill, 70; Monograph of the Alge of the, George William Traill, 101

Fischer (Dr.), Morphology of the Mediterranean Coasts, 163

Fish, Flying, Alfred Carpenter, 147; in United States, Acclimatisation of Flat Fish, 514; Fish in the Colonial Exhibition, 515; Do Fish Sleep?, W. A. Carter, 580; Value of a Marine Laboratory to the Development and Regulation of Sea Fisheries, Prof. E. Ray Lankester, F.R.S., 65; Reports of the United States Commission of Fish and Fisheries for 1881-1882, J. T. Cunningham, 79; Norwegian Fisheries, 114; Annual Report of the Fishery Board for Scotland for 1884, 281; Foreign Fishes at Wansford, Capt. Vipan's Aquarium of, 541; Fish Culture, 134; National Fish Culture Association, 85, 299, 580, 609; Fish Culture at the Inventions Exhibition, 36, 63; Importation into England of German Carp, 553; Incubation of Salmon Ova by the N. F. C. Association for the Severn Fishery Board, 609; Fish Culture in Tasmania, Saville Kent, 634; Fisheries in America, Germany, Belgium, and Holland, Diminution of, 553; Origin of the Fishes of the Sea of Galilee, Prof. Hull, 563

Fishermen, Superstitions of the Straits, 541

Fitzgerald (Prof. Geo. Fras.), Sir Wm. Thomson and Maxwell's Electro-Magnetic Theory of Light, 4

Five Mathematical Rarities, 30

Fjords, How the North-Norway, were made, Karl Pettersen, 177

Fleming (Dr. J. A.), a Form of Standard Daniell Cell, 263

Flers-en-Escrebieux, Earthquake at, 207

Fletcher (James), Canadian Entomology, 111

Fletcher (L.), Guide to the Universal Gallery of the British Museum (Natural History), 364

Fletcher (Thos.), "Smokeless Houses and Manufactories," 134

Flint-Knappers: A. J. Evans, F.S.A., on the Flint-Knappers' Art in Albania, 588

Floating Dome, the Nice, 297

Flora of Bank-Notes, 8

Flora of Canada, Alfred W. Bennett, 294

"Flora of the English Lake District," J. G. Baker, F.R.S., 75

Flora of Tropical America, Mr. Lehmann's Researches into the, 514

Floras, Mesozoic, of the Rocky Mountain Region of Canada, Sir William Dawson, F.R.S., 164

Flying Fish, Alfred Carpenter, 147

Flying Machines, L. Hargrave, 432

Fœtus, Transmission of Pathogenetic Microbes by Mother to, Koubassoff, 432

Fog, Preventing Collisions with Icebergs in a, Prof. Alex. Graham Bell, 273

Fol et Sarasin (MM.), on the Depth to which the Sun's Light will penetrate into the Sea, 132

Fol (Dr. Herman), "Lehrbuch der Vergleichenden Mikroskopischen Anatomie," Dr. E. Klein, 293

Folk-Lore, the Ceylon "Orientalist," 208; J. Theodore Bent on Greek Insular Customs, 587

Fontainebleau, Meteor seen at, E. P. Mounier, 496

Foot of the Horse, on the Development of the, Prof. Struthers, 560

Forbes (Henry O.), "Naturalist's Wanderings in the Eastern Archipelago," Alfred R. Wallace, 218; Expedition to New Guinea, 552

Forbes (William Alexander), "In Memoriam," 387

Forbes Memorial Volume, 387

Forecasting by Means of Weather Charts, 392

Forecasting of Barometric Variations, A. N. Pearson, 574

Forel (Dr. F. A.), Sky-Glows, 173; Recent Earthquake in Switzerland, 295; Tremble-terre du 26 Septembre, 1885, 574; Sub-Lacustrine Ravines of Glacial Streams, 640

Forest Cultivation from Seeds in Sweden, 230

Forestry, School of, Sir John Lubbock's Proposal for a, 62

Forests, Influence of, on Climate, 115

Formosan Ethnology, 346

Forster Herbarium, W. Botting Hemsley, 501

Forth Bridge, C. Benjamin Baker, 430

Fossil Flora of Carniola, the Baron von Ettingshausen, 311

Fossil Forests in Sweden, 402

Fossil Insects, Dr. H. A. Hagen, 53

Fossil Mammalia in the British Museum, Catalogue of, Part I., Richard Lydekker, 53; the Reviewer, 78

Fossil Plants of the Tertiary and Secondary Beds of the United Kingdom, 504

Foucault's Apparatus for the Measurement of the Velocity of Light, M. Wolf's Modification of, Albert A. Michelson, 6

Fouqué's Electrical Apparatus for Registering Propagation of Earthquakes, 254

Foul Water, W. H. Shrubsole, 223; Herbert C. Chadwick, 245; Isaac C. Thompson, 271

Fowler, John, C. E., 426

Fox (Dr. Courtenay), on the Sequence of Mean Temperature and Rainfall in the Climate of London, 536

France: Geographical Society, 281; Nineteenth Anniversary of the Institut, 578; Annual Meeting, 633; French Association, 252, 381; M. Giffard's Bequest for the Benefit of Science to the French Government, 541. See also Paris.

Frankland (P. F.), the Removal of Micro-Organisms from Water, 262

Fream (Prof. W.), Chemical Composition of American Grasses, Clifford Richardson, 525; Agricultural Grasses of the United States, Dr. Geo. Vasey, 525

Freshwater Fauna, Silesian, Dr. O. Zacharias, 160

Friedländer (Dr.), Carcinoma in Lungs, 191

Fritsch (Prof.), the Functions of the Schæaceous Glands, 544

Frog, the Eye of the, Dr. H. Virchow, 519

Frost, Hoar, Mrs. Caroline W. D. Rich, 30

Fuchs (Dr. Ernst), the Causes and the Prevention of Blindness, 623

Fuel, Petroleum Gas used for, 463

Fumariaceæ, British, the Caulotaxis of, Thomas Hick, 614

"Furculum" or "Furcula," Dr. P. L. Sclater, 406

Furnace, an Experimental Cupola, J. Riley, 430

*Gadiculus argenteus* and *Lumpeus lampetraeformis* off Aberdeen, on the Occurrence of, Francis Day, 223

Gaisbärg, Proposed Air-Balloon Railway on the, 254

Galloway (W.), Experiments with Coal-Dust at Neunkirchen, in Germany, 55; Watering the Coal-Dust in Mines, 171; Shot-Firing in Mines, 596

Galton (Francis, F.R.S.), on Family Records, 507; Opening Address in Section H (Anthropology) at the British Association, 507

Galvanometer, Prof. Anthony's Tangent, 634

Games: J. W. Crombie on a Game with a History, 587

Gamgee (Prof. Arthur, F.R.S.), "Text-Book of Pharmacology, Therapeutics, and Materia Medica," by Dr. T. Lauder Brunton, F.R.S., 337

Garbett (E. L.), Recessions of Niagara Falls in 133 Years, 244

Gardner (Henry Dent), International Inventions Exhibition, 296

Gardner (J. Starkie), "L'Evolution de Règne Végétal—Les Phanérogames," MM. Marion and Saporta, 289

Gardner's Report on Manchuria, 428

Garefowl, the Great Auk or, its History, Archaeology, and Remains, Symington Grieve, Prof. Alfred Newton, F.R.S., 545

Garson (Dr. J. G.), the Lapps, 168; on Abnormal and Arrested Development as an Induction of Evolutionary History, 589

Gas Fuel, Natural, 40

Gas Lamp, Frederick Siemens's, 247

Gas, Petroleum, Used in Ironworks, &c., at Pittsburg for Fuel, 463

Gases, Dr. Agamemnon's Experiments on Density of, 48; the Condensation of, Herr Kayser, 160; Kinetic Theory of, Prof. Crum Brown, 352, 533

Gascó (D. Antonio Suarez y D. Luis G.), "Lecciones de Coordinatoria con las Determinantes y sus principales aplicaciones," 411

Gascony, the Sand-hills of, M. Cambrelent, 375

Gastric Juice, Lactic Acid in the, Prof. Ewald, 24

Gayal and Gaur, the, Zoology of Dr. Riebeck's "Chittagong Hill Tribes," W. T. Blanford, F.R.S., 243

Gazetta Chimica Italiana, 359

Gee (W. W. Haldane) and Prof. Balfour Stewart's "Elementary Practical Physics," 339

Gegenbaur's Morphologisches Jahrbuch, 91

Gei-je (Arch., F.R.S.), "Deinocerata, a Monograph of an Extinct Order of Gigantic Mammals," Prof. O. C. Marsh, 97; Geological Survey of Belgium, 597

Generalisations, Two, W. M. Flinders Petrie, 597

Geneva, Meeting of the Astronomische Gesellschaft at, 278

Geodetic Survey, United States Coast and, 572

Geography: Notes on, 13, 63, 87, 209, 232, 281, 302, 356, 376, 403, 428, 464, 553, 581, 609, 611; Geographical Education in Sweden, 15; British Mission from India to Cashmere, 87; Geographical Society of Antwerp, 114; Projected New African Expedition by the Geographical Society, 184; Geographical Society of Australasia, 302; Geographical Society of Hamburg, 429; Geographische Blätter of the Bremen Geographical Society, 233; a New Series of Geographical Text-Books, 353; Geographical Nomenclature, 356; Exploration of the Surinam River, 356; Exploration of the

Orinoco, 356; Royal Geographical Society of Belgium, 356; Australian Expedition to New Guinea, 356; Geographical Neology and Neography, 356; What has been done for the Geography of Scotland, and what remains to be done, H. A. Webster, 565; Proposed Russian Expedition to the Amour, 495; Geography of the Caroline Islands, 494; Geography of the Pellew Islands, 464; Austrian Geographical Survey of Albanian Coast, 493; Address by Gen. J. T. Walker, F.R.S., at the British Association, 481; Major F. Bailey, on the Indian Forest School, 564; A. Hoole, on Journeyings in South-Western China, 564; Admiral Sir Erasmus Ommannay, F.R.S., Antarctic Discovery, 565; Cope Whitehouse, on Projected Restoration of the Keian Morris, and the Province, Lake, and Canals ascribed to the Patriarch Joseph, 565; E. G. Ravenstein, on Batho-Hypsographical Maps, with Special Reference to a Combination of the Ordnance and Admiralty Surveys, 565; H. A. Webster, What has been done for the Geography of Scotland, and what remains to be done, 565; John Rae, F.R.S., a Word or Two on the Best and Safest Route by which to Attain a High Northern Latitude, 566

Geology: Geological Society, 22, 118, 189, 238, 310; Geologists' Association, 46, 190; the Continental Excursion of, 230, 298; Geological Magazine, 84, 252; the Relations between the Stages of the Terrestrial Cosmogony and the Geological Epochs, M. Faye, 132; Proposed Geological Survey of Mexico, 112; Geological Survey of Belgium, 154, 199; Dr. A. Geikie, F.R.S., 597; Geology of the Transvaal Gold Fields, W. H. Penning, 190; Herbert Goss on Fossil Insects from Carboniferous and Silurian Rocks, 190; Geological and Natural History Survey of Canada, Alfred R. C. Selwyn, F.R.S., 242; Geology of Prince Edward Island, Francis Bain, 259; International Geological Congress at Berlin, 278; Geological Congress at Berlin, 551; Geology of the Philippines, 302; Geology of the Breiddalen Hills, W. W. Watts, 310; Notes on Deep Boring at Richmond, Surrey, Prof. Judd, F.R.S., and C. Homersham, 310; Correlations of the "Curiosity-Shop" Beds, New Zealand, Capt. Hutton, 311; Geology in America, 374; "Annuaire Géologique Universel et Guide du Géologue autour de la Terre," Dr. Dugincourt, 436; Address by Prof. J. W. Judd, F.R.S., at the British Association on, 453, 473; Geology of Antigua, Purves, 553; W. Whitaker, on Deep Borings at Chatham, a Contribution to the Deep Seated Geology of the London Basin, 555; Hugh Miller, on some Results of a Detailed Survey of the Old Coast-Lines near Trondhjem, Norway, 555; Dr. J. C. Howden, on the Glacial Deposits of Montrose, 555; G. H. Kinahan, on Irish Metamorphic Rocks, 555; Prof. Frank Clowes, on Barium Sulphate as a Cementing Material in Sandstone, 555; Sir Richard Owen, F.R.S., on American Evidences of Eocene Mammals of the "Plastic Clay" Period, 556; Dr. Max Schuster, on some Results of the Crystallographic Study of Danburite, 556; Edward Hull, F.R.S., Notice of an Outline Geological Map of Lower Egypt, Arabia Petraea, and Palestine, 556; Dr. R. H. Traquair, F.R.S., a Preliminary Note on a New Fossil Reptile recently discovered at New Spynie, near Elgin, 556; Rev. E. Hill, on the Average Density of Meteorites compared with that of the Earth, 556; Prof. Edward Hull, F.R.S., on the Occurrence of Lower Old Red Conglomerate in the Promontory of the Fanad, North Donegal, 556; Prof. T. G. Bonney, F.R.S., on Bastite-Serpentine and Troktolite in Aberdeenshire, with a Note on the Rock of the Black Dog, 555; Lieut.-Col. Playfair, on the Re-discovery of Lost Numidian Marbles in Algeria and Tunis, 556; Prof. A. Renard, on some Rock-Specimens from the Islands of the Fernando Noronha Group, 556; Prof. T. G. Bonney, F.R.S., on some Traverses of the Crystalline District of the Central Alps, 557; Prof. H. Carvill Lewis, on the Direction of Glaciation as ascertained by the Form of the Striae, 557; B. N. Peach and J. Horne, on the Geology of Durness and Eriboll, with Special Reference to the Highland Controversy, 558; Chas. Lapworth, on the Highland Controversy in British Geology—its Causes, Course, and Consequences, 558; W. Ivison Macadam, on Certain Diatomaceous Deposits (Diatomite) from the Peat of Aberdeenshire, 559; Prof. G. A. Lebour, on some Recent Earthquakes on the Downham Coast, and their Probable Causes, 559; Prof. H. Carvill Lewis, on some Examples of Pressure-Fluxion in Pennsylvania, 559; Geology of the Kerich Peninsula, Anduasoffon, 580; Application of Thermo-Chemistry to Explanation of

Geological Phenomena, Dieulafait, 592; Contradiction of Alleged Illegal Practices in the Geological Survey of the United States, 608; the North Atlantic as a Geological Basin, Mellard Read, 609

Geometry, Projective, Prof. Cremona's, 62

Geometry, on Certain New Terms, or Terms used in a New or Unusual Sense in Elementary Universal, Prof. J. J. Sylvester, F.R.S., 576

German Annexations in Pacific, the, 429

German Anthropological Society, 85

German Association of Naturalists and Physicians, the, 374

German Mission to inquire into Salt Industry in Cheshire, 494

German, &c., School Children, Proportion of, with Dark and Fair Complexion, 85

Gheln (M. van den), the European Origin of the Aryas, 114

Giard's (M.), Bequest to French Government for the Benefit of Science, 541

Giglioli (Dr. Italo), Disinfection of Sewers, 415

Gilchrist's Lectures Fund, the, 514

Gill (Prof.), "Account of Progress of Zoology," 85

Girard (A.), Rare Mathematical Book by, 30

Glacial Deposits, Dr. J. C. Howden on the, of Montrose, 555

Glacial Epoch in Australia, the Supposed, Capt. Hutton, 640

Glacial Period in Australia, the, Dr. R. von Lendenfeld, 69

Glaciation, Direction of, Prof. H. Carvill Lewis on the, as ascertained by the Form of the Striae, 557

Glacier, What is a?, 300

Glacier (Alaska), Movement of, 162

Glacier in Chile, the Reported Discovery of a, 184

Gladstone (Dr. J. H., F.R.S.), on the Specific Refraction and Dispersion of the Alums, 263; on Chemical Education, 328

Glanville (Miss), her Catalogue of the Natural History Collections of the Albany Museum, Grahamstown, 30

Glaser's New Expedition to Southern Arabia, 88, 233

Glasgow University, the Chair of Botany at, 61

Glasgow, Philosophical Society of, 212

Glasgow, Among the Rocks Round, Dagald Bell, 624

Glass, Spectra Produced in, by Scratching, E. F. J. Love, 270

Glazebrook (R. T., F.R.S.), on a Point in the Theory of Double Refraction, 538

Glows, Sky : Dr. F. A. Forel, 173; Robt. C. Leslie, 245

Glows, Sunset, Prof. Kiessling's Investigations of the late, J. Edmund Clark, 637

Gold in British Borneo, 161

Gold, History of a Lump of, from the Mine to the Mint, Alex. Watt, 340

Gold in Corea, Discovery of, 403

Goniometer, a New Form of Protractor and, W. F. Stanley, 402

Gordon (Gen.), Message from, borne to Sweden by a Crane, 208

Goss (Herbert), Fossil Insects from Carboniferous and Silurian Rocks, 190

Göttsche (Prof.), Travels in Corea, 164, 232

Gow (James), a Short History of Greek Mathematics, 1

Gower (A. F.): Experiments in Aerial Navigation, 133; Supposed Loss of, 329

Graber (Herr), Effects of Odorous Matters on Invertebrate Animals, 609

Granada, Earthquake at, 609

Grasses, Agricultural, of the United States, Dr. Geo. Vasey, Prof. W. Fream, 525

Grassi Museum, Proposed, 160

Graves (Robert Perceval), Lie of Sir William Rowan Hamilton, 619

Gravimetric Experiments on Action of Tidal Streams on Metals, Thos. Andrews, 189

Gravitational Instruments, Constant, Sir William Thomson, F.R.S., 535

Great Auk, or Garefowl, its History, Archaeology, and Remains, Symington Grieve, Prof. Alfred Newton, F.R.S., 545

Great Ocean Basins, John Murray, 581, 911

Greek Mathematics, a Short History of, James Gow, 1

Greek Alphabet found in Italy, Signor Barnabei, 120

Greek and Egyptian Pottery, the Connection of, 353

Greek Insular Customs, J. Theodore Bent on, 587

Greenland, Proposed Fresh Danish Scientific Expedition to, 164; Danish Researches in, 256; Return of one of the Danish Expeditions to, 554

Greenwich, Visitation of the Royal Observatory, 138

Grenfell (Rev. G.), Return of, 64; Exploration of the Mobangi River, 281; Explorations in Congo Basin, 302

Gresham College, 105

Grieve (Symington), "The Great Auk, or Garefowl, its History, Archaeology, and Remains," Prof. Alfred Newton, F.R.S., 545

Grisebach (A.), "Die Vegetation der Erde nach ihrer Klimatischen Anordnung," W. Botting Hemsley, 315; "Vegetation of the Earth," Dr. W. Engelmann, 366

Growth of Cereals, 234

Guessings at Tru h, 152

Guiana, British : E. F. in Thurn on the Red Men about the Roraima, 587

Guiana, Condreau's Journeys in, 164; Andreau on the Prairies of, 164

Guinea, Dutch, Exploration of the Surinam River, 356

Guinea, New, Australian Expedition to, 356

Günther (Dr. Albert, F.R.S.), Hume Collection of Asiatic Birds, 500

Guy (W. A., F.R.S.), Death and Obituary Notice of, 493

Gymnoscelis, Viscera of, Prof. Cleland, 561

Haan (Dr. Bieren de), Mathematical Reprints, 30

Habenicht (Dr.), Proposal for Systematisation of Scientific Observations in Africa, 64

Haberlandt (Dr. G.), "Physiologische Pflanzenanatomie im Grundriss dargestellt," 594

Hackney Microscopical and Natural History Society, 182

Hagen (Dr. H. A.), Fossil Insects, 53

Hail, Red, C. Evans, 54; Prof. Theodore Schwedoff, 437

Hainan, the Island of, Le Monnier on, 233

Hair, Nerve-Sensitivity of, Dr. Blaschko, 24; Development of, on the Human Body, 589

Hall (A.), Stone Axes, Perak, 626

Hall (H. S.) and S. R. Knight, "Elementary Algebra for Schools," 388

Halle Verein für Erdkunde, 163

Hamilton (D. J.), Is the Commissural Theory of the Corpus Callosum Correct?, 561

Hamilton (Sir William Rowan), Life of, Robert Perceval Graves, 619

Hawks (H. G.), Fourth Annual Report of the State Mineralogist of California, 100

Hanksite, W. E. Hidden, 568

Hann (Dr.), the Temperature of the Austrian Alps, 580

Hansen (G. Armauer), "Den Norske Nordhav-Expedition," 1876 to 1878, 51

Harar, Paulitschke and Harlegger's Journey to, 581

"Harbours and Docks," L. F. Vernon-Harcourt, 291

Harcourt (A. Vernon), on Photometry with the Pentane Standard, 537

Harcourt (L. F. Vernon), "Harbours and Docks," 291

Hargrave (L.), Flying Machines, 432

Harker (Allen), Coloration of the Anterior Segments of the Maldanidae, 564

Harting (J. E.), the New Bird in Natal, 6

Hartley (Prof. W. N., F.R.S.), on Molecular Formulae 87; Researches on the Relation between the Molecular Structures of Carbon Compounds and their Absorption Spectra, 93

Hartog (Dr.), on the New Star in Andromeda, 460

Harvard College Observatory, U.S., 37

Harvard Photometry, the, 368

Harvest in Algiers, Proposed Use of Electric Light for Night Work, 162

Hasle (Geo.), Measurement of Evaporation, 357

Haycraft (Prof. J. Berry), a New Theory of the Sense of Taste, 562

Hazen (H. Allen), Thunderstorms and Air-Pressure, 181

Head as Developed in the Higher Vertebrates, Spiracle of Fishes in its Relation to the, Prof. Cleland, 561

Health, Laws of, W. H. Corfield, 221

Health Science, Manual of, Andrew Wilson, 221

Heat, Radiant Light and, Prof. Balfour Stewart, F.R.S., 322, 389, 394, 413, 422, 550

Heaton (Margaret), Sense of Colour, 626

Hedley (Margaret), the Inventor of Railway Locomotion on the Present Principle, M. Archer, 595

Heights of Clouds, 630  
 Heliometer, Investigations with the, Dr. Elkin, 329  
 Hell Gate, the Blowing Up of, 552, 575; and Rackarock, Dr. H. Sprengel, F.R.S., 625  
 Helm-Wind, the, 23  
 Helmersen (G. P.), Obituary Notice of, 134  
 Helmholtz (Prof. von, F.R.S.), Sir William Thomson's "Mathematical and Physical Papers," 25; Wernicke's Experiments on the Reflection of Light, 312  
 Hemsley (W. Botting), Vegetation of the Earth, A. Grisebach, 315; the Forster Herbarium, 501  
 Henderson (J. R.), 181  
 Herat, Exploration of Afghan Frontier Commission of Country round, 164  
 Herbarium, the Forster, W. Botting Hemsley, 501  
 Hereditary Nature, Francis Galton, F.R.S., on, 507  
 Hereditiy, 543  
 Herendeen (Capt.), Prehistoric Structures in Micronesia, 13  
 Heureux (Jean L'), an Ancient Sacrificial Stone of North-West Canada, 46  
 Heyes (J. F.), Statigrams, 597  
 Hick (Thomas), the Caulotaxis of British Fumariaceae, 614  
 Hicks (Prof. W. M.), on the Constitution of the Luminiferous Ether on the Vortex Atom Theory, 537  
 Hickson (Dr. Sydney J.), Botanical Gardens in Java, 576  
 Highland Controversy: Chas. Lapworth on the Highland Controversy in British Geology—its Causes, Course, and Consequences, 558  
 High-Level Meteorological Stations, Dr. A. Woeikof, 54  
 High-Pressure, Life of Aquatic Animals at, 399  
 Higher Mathematics, 302  
 Hildebrandsson (Dr.), the Mean Direction of Cirrus Clouds over Europe, 190  
 Hill (Alex.), Evidence of Comparative Anatomy with regard to Localisation of Function in the Cortex of the Brain, 561  
 Hill (Rev. E.), on the Average Density of Meteorites compared with that of the Earth, 556  
 Hill Tribes, Chittagong, Dr. Emil Riebeck, 169  
 Hippisley (J.), Pulsation in the Veins, 389, 574  
 Histology, Essentials of, E. A. Schäfer, Dr. E. Klein, F.R.S., 388  
 Hoang-Ho Journey, Prjevalsky's, 15  
 Hoar Frost, Mrs. Caroline W. D. Rich, 30  
 Höck (Dr. L.), "Die Nutzbarer Pflanzen und Tiere Amerikas und den alten Welt vergleichen in Bezug auf ihren Kultur-einfluss," 413  
 Hodgkinson (Alex.), Unusual Atmospheric Phenomenon, 173  
 Hoffmann (Dr. H.), "Resultate der wichtigsten pflanzen-phänologischen Beobachtungen in Europa nebst einer Frühlingskarte," 146  
 Höltzke (Dr.), Intra-ocular Pressure, 191; the Influence of Blood-Pressure on Intra-ocular Pressure, 336  
 Homershaw (Collett), Notes on Deep Boring at Richmond, Surrey, 310  
 Homing Faculty of Hymenoptera, Dr. Geo. J. Romanes, F.R.S., 630  
 Hong-Kong Observatory, the, 84  
 Hopkinson (Dr. John, F.R.S.), Magnetisation of Iron, 68  
 Horse, on the Development of the Foot of the, Prof. Struthers, 560  
 Horsley (Victor), Motor Centres of the Brain and the Mechanism of the Will, 377  
 Hosie (A.), Chinese Insect Waite Wax, 562; Journeyings in South-Western China, 564  
 Horticultural Congress, Antwerp International Botanical and, 182  
 Howden (Dr. J. C.), on the Glacial Deposits of Montrose, 555  
 Howes (G. B.), "An Atlas of Practical Elementary Biology," 388  
 Hudson's Bay, Alert Expedition to, 114, 611  
 Huggins (Wm., F.R.S.), the New Star in Andromeda, 465  
 Hughes (W. R.), Fauna of the Seashore, 294  
 Hugo, Victor, 119  
 Hull (Prof. Edward, F.R.S.), Notice of an Outline Geological Map of Lower Egypt, Arabia Petrea, and Palestine, 556; on the Occurrence of Lower Old Red Conglomerate in the Promontory of the Fanad, North Donegal, 550; on the Causes of the Extreme Dissimilarity between the Faunas of the Pea Sea and the Mediterranean, 560; Origin of the Fishes of the Sea of Galilee, 563  
 Human Body, W. F. Stanley on a Portable Scale of Proportion of, 586  
 Humble-Bees, Dead, under Lime-trees, Edward Saunders, 427  
 Humboldt (Alexander von), the Primitive Peoples of America, 464  
 Hume Collection of Asiatic Birds, 317; Dr. Albert Günther, F.R.S., 500  
 Hunt (Arthur R.), Fauna of the Seashore, 390; Influence of Wave Currents on the Fauna of Shallow Seas, 547  
 Hunt (Cyril B. Holman), Larvae of *Cerura vinula*, 574  
 "Hunterian Oration," John Marshall, F.R.S., 51  
 Hut Circles, Worthington G. Smith, 29  
 Hütterott (Herr), on the Japanese Sword, 635  
 Hutton (Capt.), Correlations of the "Curiosity-Shop" Beds, New Zealand, 311; the Supposed Glacial Epoch in Australia, 640  
 Huxley (Prof.), F.R.S., Honorary Degree of D.C.L. conferred on, 181; and the Normal School of Science, 327  
 Hybridisation of Salmonidae at Howietown, Francis Day, 562  
 Hydrocarbons at High Temperatures, on the Decompositions and Genesis of, I., H. E. Armstrong and A. K. Miller, 286  
 Hydrographical Bureau at Washington, 110  
 Hydrology and Climatology Congress, the, 84  
 Hydromechanics, 164  
 Hygiene: Principles of, Albert Carey, 221; Hygiene, Edward F. Willoughby, 221; a Manual of Health Science, A. Wilson, 221; Hygiene, a Manual of Personal and Public Health, Arthur Newsholme, 221; the Laws of Health, Dr. W. H. Corfield, 221  
 Hymenoptera, Homing Faculty of, Dr. Geo. J. Romanes, F.R.S., 630  
 Ibbetson (W. J.), Terminology of the Mathematical Theory of Elasticity, 76  
 Ice in Atlantic Ocean, Chart of the, 302  
 Ice (Floating) off Coast of Bergen, Unprecedentedly Early Appearance of, 515  
 Ice, Some Experiments on the Viscosity of, Prof. C. Lloyd Morgan, 16  
 Icebergs, Preventing Collisions with, in a Fog, Prof. Alex. Graham Bell, 273, 353; J. Joly, 367  
 Iceland: Avalanche in, 230; a Lava Desert in, Th. Thoroddsen, 403; Inclement Summer in, 427; Barley-Growing successfully attempted in, 494; a Lava Desert in the Interior of, Th. Thoroddsen, 554  
 Ichthiological Museum, the International, 580; Additions to, 634  
 Igneous Rocks, Prof. T. G. Bonney, F.R.S., on Bastite-Serpentine and Troktolite in Aberdeenshire, with a Note on the Rock of the Black Dog, 556  
 Illumination in a Fog, the Theory of, Lord Rayleigh, 22  
 Im Thurn (E. F.), on the Red Men about the Roraima in British Guiana, 587  
 Images, on Certain Spectral, produced by a Rotating Vacuum Tube, Shelford Bidwell, 30; Dr. Henry Muirhead, 55  
 Images, Ocular, and After-Images, W. M. Laurin, 197  
 Imaginary and Infinite, a New Example of the Use of the, in the Service of the Finite and Real, Prof. J. J. Sylvester, F.R.S., 103  
 Incandescent Lamps, Molecular Radiation in, Dr. J. A. Fleming, 263  
 India: the Zoology of the Indian Seas, 35; Wheat-Production in India, Prof. John Wrightson, 79; British Geographical Mission to, 87; Rains in, 218; Mr. Allan Hume's Ornithological Collection, 327; Earthquakes in Indian Archipelago, 427; Statistics of Rainfall in, 494; on Levelling Operations of the Great Trigonometrical Survey of India, Major A. W. Baird, 536; on the Development of Cholera in, Gustave Le Bon, 543; Indian Forest School, Major F. Bailey, 564; Archaeology in India, 634; Proposed Daily Synoptic Charts of the Indian Ocean from 1861, 502; on a Supposed Periodicity of the Cyclones of the Indian Ocean South of the Equator, Chas. Meldrum, F.R.S., 613; the Value of Indian Ink in Microscopy, Léo Errera, 37  
 India-rubber, on the Behaviour of Stretched, H. G. Mavlan, 625  
 Indiana, Proposed State Academy in, 633  
 Induction Machine, Wimshurst, Notes on the Action of, G. B. Buckton, F.R.S., 51

Industrial Statistics, U.S., 369  
 Infinite and Imaginary, a New Example of the Use of the, in the Service of the Finite and Real, Prof. J. J. Sylvester, F.R.S., 103  
 Ingleby (Dr. C. M.), Composite Portraits, 224  
 "In Memoriam," William Alexander Forbes, 387  
 Inoculations, the Anti-Cholera, of Dr. Ferran, Dr. E. Klein, F.R.S., 617  
 Inoculation for Rabies, Pasteur, 633  
 Inorganic Analysis, Qualitative, a Treatise on Practical Chemistry and, Frank Clowes, 3  
 Insect Ravages, 524  
 Insect Wax, Chines\*, R. McLachlan, F.R.S., 6  
 Insects' Eyes, Mr. Lowe on the Morphology of, Dr. E. A. Schäfer, F.R.S., 3  
 Insects, Fossil, Dr. H. A. Hagen, 53  
 Institut, Ninetieth Anniversary of the, 578  
 Institute of Chemistry, 609  
 Institution of Civil Engineers, 109  
 Institution of Mechanical Engineers, 20, 298, 343, 634  
 Instruments, Meteorological, 67  
 Integral Calculus, C. Carpmael, 258  
 Integrigraph, a New, D. Napoli and Abdank-Abakanowicz, 519  
 International Botanical and Horticultural Congress, Antwerp, 1885, Prof. W. R. McNab, F.R.S., 416  
 International Exhibition, Music Loan Collection, Dr. W. H. Stone, 174  
 International Meteorological Committee, 501  
 International Sanitary Conference in Rome, 217  
 International Telegraph Conference at Berlin, 353  
 Invention, an Earthquake, 222; Prof. John Milne, 573; Prof. C. Piazzi Smyth, 213, 625; D. A. Stevenson, 213  
 Inventions Exhibition, 8; the Aquarium at, 36; Fish-Culture at the, 63; Electricity at the, 106; Rats at, 112; Secondary Generators of Messrs. Gaulard and Gibbs at the, 225; Breeding of Dogfish at, 254; Henry Dent Gardner on the, 296; Black Bass at, 375; Restocking of the Aquarium, 541  
 Invertebrate Animals, Effects of Odorous Matters, Herr Gruber, 609  
 Iona, Duke of Argyll, 413  
 Iridescent Crystals of Potassium Chlorate, H. G. Madan, 102; Prof. G. G. Stokes, 224  
 Iron: Iron and Steel Institute, 11, 38, 429; Meeting at Glasgow, 352; on the Structure of, and Steel, H. C. Sorby, F.R.S., 39; The Properties of Malleable, 40; Magnetisation of Iron, Dr. John Hopkinson, F.R.S., 68; Whether Known in America before Columbus, 110; the Lines of, Prof. Thalén, 253; Iron Trade of Scotland, J. Rowan, 429; an Experimental Cupola Furnace for Iron-Smelting, J. Riley, 430  
 Irving (Rev. A.), General Section of the Bagshot Strata, 22  
 Isis Scientific Society of Dresden, 111  
 Island of Hainan, Le Monnier on, 233  
 Iso-nerism, the Phenomena of, Prof. Butleroff on, 87  
 Isthmus of Panama, Piercing the, 370  
 Italy: Stone-Age Articles Discovered at Breonio Veronese, 47; Italian Scientific Expedition to Burmah, 87; Greek Alphabet Found in, Signor Barnabei, 120; Italian Geographical Society, 357; Two Early Italian Adventurers in South America, 376; the Topography of Italy under the Romans, 376; Rumoured Massacre of Massari's Italian African Expedition, 493; the Present State of Science in, 609; Italian Meteorological Society, 609; General Meeting at Florence, 207  
 Ivanoff (M.), the Pamir, 113  
 Ivens (Commander) and Capt. Capello, African Explorations of, 429  
 Izvestia of the Russian Geographical Society, 64, 113, 135, 163, 208  
 Jackdaws and Cholera, 400  
 Jagiaux (Raou) "Traité de Minéralogie Appliquée aux Arts, à l'Industrie, au Commerce, et à l'Agriculture," 28  
 Jamaica Institute, 182  
 Jamaica, Science in, Morris, 182  
 Jamieson (Prof. Andrew), Electrical Definitions, Nomenclature and Notation, 184  
 Janssen (Dr.), Universal Meridian, 148, 200; Experiments on the Influence of Gases in Spectrum Analysis, 400  
 Japan: Patent Law in, 208; Lepidoptera of Great Britain and Japan, compared, H. Pryer, 427; Earthquakes, Phenomena in, 526; Roman Lettering Adopted for Japanese Societies' Proceedings, 494; Japanese Tattooing, 566; Japanese Meteorological Observatory, 579; on the Japanese Sword, Herr Hütterott, 635  
 Java: the Recent Volcanic Eruptions in, 181; Meteorology in, 300; Volcanic Activity in, 401; Botanical Gardens in, Dr. Sydney J. Hickson, 576  
 Jenkins (Prof. Fleeming, F.R.S.), Obituary Notice of, 153  
 Jennings (Capt.), Return of, 88  
 Johns Hopkins University Circular, 110  
 Johnston-Lavis (Dr. H. J.), the New Outburst of Lava from Vesuvius, 55, 108  
 Joly (J.), Preventing Collisions with Icebergs, 367; on a Photometer made with Translucent Prisms, 537  
 Jones (Wm.), the Recovery of Tar and Ammonia from Blast Furnaces Fed with Raw Coal, 430  
 Jonköping, Remarkable Aerial Phenomenon at, 375  
 Journal of Anatomy and Physiology, 91, 591  
 Journal of Botany, 21, 189, 310, 614  
 Journal of Franklin Institute, 309  
 Journal of Physiology, 91, 591  
 Journal of the Royal Agricultural Society of England, 222  
 Journal of the Royal Microscopical Society, 116, 591  
 Journal of the Russian Chemical and Physical Society, 44, 213  
 Jubilee of the Statistical Society, 188  
 Judd (Prof. J. W., F.R.S.), Notes on Deep Boring at Richmond, Surrey, 310; Opening Address in Section C (Geology) at the British Association, 453; Presence of the Remains of Dicyonodon in the Triassic Sandstone of Elgin, 573  
 July Meteor, W. F. Denning, 342  
 Jumbo's Body, 541  
 Jump, Mechanism of the, Marey and Demeny, 432  
 Jupiter: W. F. Denning, 31; Recurrence of Markings on, W. F. Denning, 196; and Saturn, Mars, W. F. Denning, 548; Red Spot on, W. F. Denning, 626  
 Jupp (H.B.), August Meteors, 342

Kaiser (Dr. H.), "Die Determinanten, für den ersten Unterricht in der Algebra bearbeitet," 411  
 Kakké Disease, Discoveries as to Origin of, Dr. Wallace Taylor, 330  
 Karst, the Drainage of the, 88  
 Kassai River, 554; Discovery of Fall into Lake Leopold II. of, by Lieut. Weissmann, 495, 581  
 Katchin Tartars of Minusinsk, Customs of, 208  
 Kayser (Dr.), the Absorption of Carbonic Acid on Smooth Glass Surfaces, 72; Photographs of Lightning-Flashes, 111; the Condensation of Gases, 160; on an Advance in the Theory of Spectral Lines, 312  
 Keane (Prof. A. H.), the Lapps, 141, 168; Translation of Dr. Emil Riebeck's "Chittagong Hill Tribes," 169  
 Kekip-Sesoots of North-West Canada, the, 46  
 Kempe (A. B., F.R.S.), a General Theory of Mathematical Form, 237  
 Kennedy (Prof. Alex. B. W.), Nomenclature in Elasticity, 269  
 Kent (Saville), Fish-Culture in Tasmania, 634  
 Kerry-Nicholls (J. H.), the Maori Race, 93  
 Kertch Peninsula, Geology of the, Andrusoff, 580  
 Khiva, Dr. Henry Lansdell on, 194  
 Kiesling (J.), "Die Dämmerungserscheinungen im Jahre 1883 und ihre physikalische Erklärung," 321; Investigations into the Origin of the late Sunset-Glows, J. Edmund Clark, 637  
 Kilima-njaro, Exploration of, 530  
 Kinahan (G. H.), on Irish Metamorphic Rocks, 555  
 Kinetic, Prof. Clifford's, R. Tucker, 147  
 Kinetic Theory of Gases, Prof. Crum Brown, 352, 533  
 Klein (Dr. E., F.R.S.), Louis Pasteur—his Life and Labours, 146; Microtome's Vade-Mecum, Arthur Bolles, 147; "Lehrbuch der Vergleichenden Mikroskopischen Anatomie," Dr. Herman Fol, 293; "Essentials of Histology," E. A. Schäfer, 388; Anti-Cholera Inoculations of Dr. Ferran, 617  
 Klossowski on Thunderstorms in Russia, 160  
 Kite-Cleaner, the "Sun," 542  
 Knight (S. R.), and H. S. Hall, Elementary Algebra for Schools, 388

Koch's Microbe, on an Alkaloid extracted from Liquid used for Cultivation of, A. G. Pouchet, 432

Koetschau, the Boing for Scientific Purposes at, 162

König (Dr.), New Spectro-Photometer, 191; Measurement of the Modulus of Elasticity, 36

"Königliche Gesellschaft der Wissenschaften," 383

Kopreinitz, Earthquake in, 231

Korea, Dr. Gottsche's Exploration of, 164, 232

Kossel (Dr.), Nucleine, 520

Koubassoff, Transmission of Pathogenetic Microbes by Mother to Fetus and in Milk, 432

Kowalewski (W.), on the Growth of Cereals, 234

Kreischer (Prof. C. G.), Shot-Firing in Mines, 596

Krakatoa, Threatening State of, 161, 601

"Kryptogamen Flora von Schlesien," Dr. J. Schröter, 76

Kuldja, Dr. Henry Lansdell on, 194

Kurile Islands, Prof. Milne, 209; Notes on the, Milne and Snow, 135

Labour Exhibition at Paris, 401

Lacquer, the Chemistry of Japanese, Hikorokuro, Yoshida, 190

Lactic Acid in the Gastric Juice, Prof. Ewald, 24

Lady Curator, a, E. L. Layard, 30

Lagueau, Medieval Anesthetics, 301

Laing (Jeanie M.), on the Modes of Grinding and Drying Corn in Old Times, 587

Lake District, Flora of the English, J. G. Baker, F.R.S., 75

Lake-Dwellings, Ancient British, Dr. R. Munro on the Archaeological Importance of, 588

Lake George, Rainfall of, 236

Lamp, Gas, Frederick Siemens', 247

Lanea-hire, Birds of, F. S. Mitchell, 241

Landmark (Prof.), the Capability of Salmon to Jump Waterfalls, 329

Langley (S. P.), Sunlight and the Earth's Atmosphere, 17, 40

Language of Signs used by Oriental Traders, J. Menges, 231

Lankester (Prof. E. Ray, F.R.S.), Value of a Marine Laboratory to the Development and Regulation of our Sea Fisheries, 65; "Bronn's Classen und Ordnungen des Thierreichs," 145

Lansdell (Rev. Dr. Henry), Fauna of Russian Central Asia, 56; "Russian Central Asia, including Kuldja, Bokhara, Khiva, and Merv," 194

Laos, M. P. Neis on, 166

Lapps, the, Prof. A. H. Keane, 14; Dr. Garson and Prof. Keane, 168

Lapworth (Chas.), on the Highland Controversy in British Geology—its Causes, Course, and Consequences, 558

Larmor (J.), on Molecular Distances in Galvanic Polarisation, 536

Larvae, Phytophagous, the Essential Nature of the Colouring of, E. B. Poulton, 91

Larvae of *Cerura vinula*, Cyril B. Holman Hunt, 574

Lassars (Dr.), Preparations of Skin of Lichen Ruber Patients, 544

Last (J. T.), Projected New African Expedition, 184

Latitude of Solar Macule, &c., Distribution in, Signor Tacchini, 120

Laurin (W. M.), Ocular Images and After-Images, 197

Lava from Vesuvius, the New Outburst of, H. J. Johnston-Lavis, 55

Lava Desert in Interior of Iceland, a, Th. Thoroddsen, 403, 554

Lawton's Method of Preventing Collisions with Icebergs, 353

Laws (Dr. Robert), on the Manners and Customs of the Bantu Tribes of Lake Nyasa, 589

Laws of Health, W. H. Corfield, 221

Layard (E. L.), a Lady Curator, 30

Lean (William Scarnell), Recent Earthquakes, 175

Lebanon, Expedition of Dr. Noetling to, 11

Le Bon (Gustave), on Development of Cholera in India, 543

Leboulleux (L.), "Traité Élémentaire des Déterminants," 411

Lebouur (Prof. G. A.), on Some Recent Earthquakes on the Downham Coast and their Probable Causes, 559

Lectures (Science), at Victoria Hall, 514; Penny Science, 609

Lehmann (F. C.), Return to America of, 514

Leibnitz, Observations of the Temperature of the Sea and Air made during a Voyage from England to the River Plate in the s.s. J. Y. Buchanan, 126

Leipzig, Proposed Grassi Museum at, 160

Leicester Literary and Philosophical Society, 635

"Leitfaden bei zoologisch-zootomischen Präparirübungen," A. Mojsisovics Edlen von Mojsvár, 171

Lena, the Delta of the, 16; Record of Temperature at the Polar Station, 16

Lenape Stone; or the Indian and the Mammoth, H. C. Mercer, Dr. E. B. Tyler, F.R.S., 593

Lendenfeld (Dr. R. von), the Glacial Period in Australia, 69; the Phoria-pomiae, 119; the Auleniæ, 639

Lenz (Dr. Oscar), his African Expedition, 357

Leo (Dr.), on the Formation and Conveyance of Fat in Phosphorus-Poisoning, 120

Lepidoptera of Great Britain and Japan compared, H. Pryer, 427

Lesley (Prof. J. P.), Address to the American Association for the Advancement of Science, 514

Le-lie (Robt. C.), Sky-Glows, 245

Less (Dr.), the Markings of the Barograph during Thunderstorms, 72

Lesseps (Ferdinand de), on the Water-Supply of the Desert Tracts of Southern Tunis, 281

Lewis (Prof. H. Carvill), on the Direction of Glaciation as Ascertained by the Form of the Striae, 557; on Some Examples of Pressure-Fluxion in Pennsylvania, 559

Lewis (T. C.), Artificial Earthquakes, 295; Tertiary Rainbow, 523, 626

Libraries, Colonial Public, J. R. Boosé, 183

Lichen Ruber Patient, Dr. Lassar's Preparations of Skin of, 544

Lick Observatory, the, 320

Life of Aquatic Animals at High Pressure, 399

Light: Sir Wm. Thomson and Maxwell's Electro-Magnetic Theory of, Prof. Geo. Fras. Fitzgerald, 4; M. Wolf's Modification of Foucault's Apparatus for the Measurement of the Velocity of, Albert A. Michelson, 6; the Action of, in diminishing the Electrical Resistance of Selenium, Shelford Bidwell, 167; as a Means of Investigation, Prof. G. G. Stokes, on, Prof. P. G. Tait, 361; Radiant Light and Heat, Prof. Balfour Stewart, F.R.S., 322, 389, 394, 413, 422, 550; B. A. Report on Standards of White Light, 529; a Standard of Light, J. Trowbridge, 568

Lightning, Ocular After-Images and, Shelford Bidwell, 101; A. S. Davis, 126

Lightning Flashes, Photographs of, Dr. Kayser, 111

Lightning, Trees struck by, in Richmond Park, 460

Lightning, Causes of Liability of Certain Trees to be struck by, Percy Smith, 494

Lime-trees, Dead Humble bees under, Edward Saunders, 427

Lindsay (Miss Beatrice), on the Development of the Sternal in Birds, 540

Linnæus, the Statue of, 110

Linnæan Society of New South Wales, 73, 119, 287, 615, 639

Linnæan and Old Herbaria, Application of Anatomical Method to the Determination of the Materials of the, Prof. L. Radlkofsky, 563

Little Knott, the Diorite of, Prof. T. G. Bonney, F.R.S., 189

Lippowans, the, Dr. Polek, 429

Liquids, Dilatation of, Prof. Mendeléeff on Formæta of, 87

Liquids, Determination of Some Co-efficients of Friction, &c., 518

Liquids, the Spheroidal State of, Luvini, 635

Liquid Films, Prof. A. W. Rücker, F.R.S., 210

Liquefying Oxygen, New Process of, M. L. Cailletet, 584

Liverpool Naturalists' Field Club, 231

Lizards in the British Museum, Catalogue of, George Albert Boulonger, 42

Lloyd (J. U.), Spreading of Various Saline Solutions on Filter Paper, 87

Lockhart's (Col.) Oxus Expedition, 429

Locomotion, Human: Mechanism of the J-eap, Marey and Demeny, 432

Locomotion of Animals, the, Dr. Müllenhoff, 496

Locomotive, the Compound, 197

Lodge (Prof. Oliver), Notes for the Opening of a Discussion on

Electrolysis, to be held in Section B, at the British Association in Aberdeen, September, 1885, 458  
 Loew (Dr. scar), a Chemical Difference between Living and Dead Protoplasm, 563  
 London, Teaching University for, 255  
 London, University of, 289  
 London Mathematical Society, 608  
 Long (James), British Dairy Farming, Prof. John Wrightson, 571  
 Long Sight, A. Shaw Page, 103  
 Love (E. F. J.), Spectra Produced in Glass by Scratching, 270  
 Lovell (J.), Recent Earthquakes, 175  
 Lowe (H. F.), Decomposition of Carbonic Acid by Electric Spark, 287  
 Lowe (Mr.), on the Morphology of Insects' Eyes, Dr. E. A. Schäfer, F.R.S., 3  
 Lubbock (Sir John, F.R.S.), on Science, 11; Proposal for School of Forestry, 62; the Neglect of Science in Public Schools, 552  
 Lucas (Dr. Robert), Electrical Phenomenon in Mid-Lothian, 343  
 Lumber Trade in America, 207  
 Luminiferous Ether, on the Constitution of the, and the Vortex-Atom Theory, Prof. W. M. Hicks, 537  
 Lummer (Dr.), Observations on Interference-Phenomena produced by Glasses Parallel to the same Plane, 311  
*Lumpenus limpetiformis* and *Gadiculus argenteus* off Aberdeen, on the Occurrence of, Francis Day, 223  
 Lund, University of, 112  
 Lungs, Bacillary Phthisis of the, Germain Séé, 341  
 Luvini, the Spheroidal State of Liquids, 635  
 Lydekker (Richard), Catalogue of Fossil Mammalia in the British Museum, Part I., 53

McCormick Observatory, the, 84  
 McIntosh (Prof. W. C., F.R.S.), Opening Address in Section D (Biology), at the Meeting of the British Association, 476; on St. Andrews Marine Laboratory, 563  
 M'Kendrick (Prof.), on the Action of Cold on Microphytes, 561  
 McLachlan (R., F.R.S.), Chinese Insect Wax, 6; Sunsets, 437  
 McMunn (Dr.), on the Chromatology of Actiniae, 68; Enterochlorophyll, 69  
 McNabb (Prof. W. R., F.R.S.), International Botanical and Horticultural Congress, Antwerp, 1885, 416  
 Macadam (W. Ivison), on Certain Diatomaceous Deposits (Diatomite) from the Peat of Aberdeenshire, 559  
 Machine, Notes on the Action of the Wimshurst Induction, G. B. Buckton, F.R.S., 51  
 Mackay (J. S.), "Key to the Elements of Euclid," 388  
 Maclay (Mikluho), Reports of Outcome of his Travels, 35  
 Macleay Fellowships at Sydney University, 230  
 Macoun (John), Catalogue of Canadian Plants, 242  
 Madan (H. G.) Iridescent Crystals of Potassium Chlorate, 102; on Cases of the Production of Ohm's (Langberg's) Ellipses by Biaxial Crystals, 414; on the Behaviour of Stretched India-rubber, 625  
 Madras, Meteorology in, 541; Profesorship of Biology at, 181  
 Magnetisation, the Changes Produced in Length of Metal Rods by, Shelford Bidwell, 45, 167  
 Magnetisation of Iron, Dr. John Hopkin on, F.R.S., 68  
 Magnetism and Electricity, W. G. Baker, 340  
 Malaga, Earthquake near, 329  
 Malay Peninsula; the "Sakei" Aboriginals, 428  
 Maldanidae, Colouration of the Anterior Segments of the, Allen Harker, 564  
 Male Sole is not Unknown, Francis Day, 78  
 Mammalia, Fossil, in the British Museum, Catalogue of, Part I., Richard Lydekker, 53; the Reviewer, 78  
 Mammoth, an Old Drawing of a, Baron A. E. Nordenkjöld, 228  
 Man, Isle of, the Antiquities of, Prof. Boyd Dawkins, 579  
 Man, Tertiary, M. de Mortillet, 494  
 Man, New, of Mentone, Thomas Wilson, 588  
 Man: Prof. D. J. Cunningham on Certain Points of Comparison between the Chimpanzee and, 588  
 Man (Edward Horace), Aboriginal Inhabitants of the Andaman Islands, 409; on the Nicobar Islands, 589

Manchester Literary and Philosophical Society, 46  
 Manchester and District Association of Science and Art Teachers, 300  
 Manchuria, Report on, Gardner, 428  
 Maori Race, the, J. H. Kerry-Nicholls, 93  
 Marey and Demy, the Mechanism of the Jump, 432  
 Marine Algae, Notes on, Edw. Batters, 101  
 Marine Biological Association, the, 61; State Aid to, 278  
 Marine Fish-Culture, 609  
 Marine Laboratory, Value of a, to the Development and Regulation of our Sea Fisheries, Prof. E. Ray Lankester, F.R.S., 65  
 Marine Station, Scottish, J. P. Cunningham, 176  
 Marine Zoology: Proposed Exploration of the Indian Seas, 35  
 Marion (M.) and M. Saporta, "L'Evolution du Régne Végétal—Les Phanérogames," J. Starkie Gardner, 289  
 Markings on Jupiter, Recurrence of, W. F. Denning, 196  
 Marlborough College, Science at, 401  
 Mars, Jupiter, and Saturn, W. F. Denning, 548  
 Marsh (Prof. O. C.), "Deinocerata, a Monograph of an Extinct Order of Gigantic Mammals," Arch. Geikie, F.R.S., 97; Size of the Brain in Extinct Animals, 562  
 Marshall (John, F.R.S.), "Hunterian Oration," 51  
 Martin (Sidney), Digestion of Proteids in Plants, 563  
 Mason (Sir Josiah), Statue of the late, 552  
 Mason (Prof. O. T.), Summary of Anthropological Work for 1884, 355  
 Mason Science College, Birmingham, 427  
 Massari's Italian African Expedition, Rumoured Massacre of, 493  
 Massowah, Erection of Meteorological Station of, 11  
 Materia Medica, Text-Book of Pharmacology, Therapeutics, &c., Dr. T. Lauder Brunton, F.R.S., Prof. Arthur Gainge, F.R.S., 337  
 Mathematics: a Short History of Greek, James Gow, 1; The late Prof. Clifford's Papers on Mathematics, 4; Sir William Thomson's "Mathematical and Physical Papers," Prof. Helmholtz, F.R.S., 25; Five Mathematical Rarities, 30; Mathematical Society, 70, 118, 167; Terminology of the Mathematical Theory of Elasticity, W. J. Ibbs, 70; William Sutherland, 391; Henry Muirhead, 439; a General Theory of Mathematical Form, A. B. Kempe, F.R.S., 237; Higher Mathematics, 302; American Journal of Mathematics, Pure and Applied, 364; Address on, at the British Association, by Prof. G. Chrystal, M.A., F.R.S.E., 446; Prof. Crum Brown, on the Kinetic Theory of Gases, 533; Sir William Thomson, on Constant Gravitational Instruments, 535; Prof. Osborne Reynolds, on the Dilatancy of Media Composed of Rigid Particles in Contact, 535; Prof. Pirie, on Calculating the Surface-Tensions of Liquids by Means of Cylindrical Drops or Bubbles, 530; Prof. Pirie, on the Surface-Tension of Water which contains a Gas dissolved in it, 536; Lord Rayleigh, on the Thermodynamic Efficiency of Thermopiles, 536; J. Larmor, on Molecular Distances in Galvanic Polarisation, 536; J. T. Bottomey, on Cooling of Wires in Air and Vacuum, 536; Major A. W. Baird, on Levelling Operations of the Great Trigonometrical Survey of India, 536; Mr. A. Buchan, on the Rainfall of the British Islands, 536; W. H. Preece, on a Remarkable Occurrence during the Thunderstorm of August 6, 1885, 536; A. Buchan, on the Meteorology of Ben Nevis, 536; Dr. Courtney Fox, on the Sequence of Mean Temperature and Rainfall in the Climate of London, 536; W. H. Preece, on Domestic Electric Lighting, 537; Discussion on Standards of White Light, 537; A. Vernon Harcourt, on Photometry with the Pentane Standard, 537; Prof. W. M. Hicks, on the Constitution of the Luminiferous Ether on the Vortex Atom Theory, 537; J. Joly, on a Photometer made with Translucent Prisms, 537; K. T. Glazebrook, on a Point in the Theory of Double Refraction, 538; Prof. W. F. Barrett, on a New and Simple Form of Calorimeter, 538; Vuibert's Journal de Mathématiques Élémentaires, 609  
 Matter, Properties of, Prof. Tait's, Lord Rayleigh, F.R.S., 314  
 Maxim Gun, 21  
 Maxwell's, Sir William Thomson and, Electro-Magnetic Theory of Light, Prof. Geo. Fras. Fitzgerald, 4  
 Measure of Fidget, 14

Measurement of Degrees in Europe, Publication of the Norwegian Commission of the, 547  
 Mechanical Engineers, Institution of, 20, 343  
 Mechanical Telephone, W. J. Millar, 316  
 Mechanism of the Will, Motor Centres of the Brain and the, Victor Horsley, 377  
 Mechanism of the Pump, Marey and Demeny, 432  
 Medicine in Dundee, Proposed School of, 254  
 Medicine, the Low Popular Estimate of, Dr. Quain, 608  
 Mediterranean Coast, Morphology of the, Dr. Fischer, 163  
 Mediterranean Coral Trade, the, 36  
 Mediterranean and the Red Sea, on the Cause of the Extreme Dissimilarity between the Faunas of the, Prof. E. Hull, F.R.S., 560  
 Meerens on Standard Musical Pitch, 9  
*Megaloglossus Woermannii*, 374  
 Meldola (Prof. R.), Colours of Arctic and Alpine Animals, 172  
 Melting and Boiling-Point Data, T. Carnelley, 364  
 Mendenhall (Prof. T. C.), 81; a Differential Resistance-Thermometer, 567  
 Mendeléeff (Prof.), on Formulae of Dilatation of Liquids, 87  
 Menges (J.), Language of Signs used by Oriental Traders, 231  
 Mentone, a New Man of, Thomas Wilson on, 588  
 Mercer (H. C.), "The Lenape Stone; or, the Indian and the Mammoth," Dr. E. B. Tylor, F.R.S., 593  
 Meridian, Universal, Dr. Janssen, 148, 200  
 Meridional Oscillation of the Auroral Zone, Eleven-Year, E. Douglas Archibald, 414  
 Merriam (Dr. C. H.) and Economic Ornithology, 329  
 Merv Oasis, Baron Benoist-Méchin's Travels in, 209  
 Mesozoic Floras of the Rocky Mountain Region of Canada, Sir William Dawson, F.R.S., 164  
 Metal Rods, the Changes produced by Magnetisation on Length of, S. Bidwell, 45  
 Metals, Action of Tidal Streams upon, Thos. Andrews, 189  
 Metallurgy, the Development of Technical Instruction in, Prof. Chandler Roberts, F.R.S., 608  
 Metamorphic Rocks, G. H. Kinahan on the Irish, 555  
 Metamorphism, Regional, Prof. Prestwich, F.R.S., 214  
 Meteorology, 252, 253; Erection of Meteorological Station at Massowah, 11; Work of the Observatory Department of South Australia, 12; High-Level Stations, 54; Meteorological Instruments, 67; Meteorology of the China Seas, 84; New Meteorological Station on the Tyrolese Alps, 133; Meteorological Society of Vienna, 133; the International Committee of Meteorology, 160; Meteorology of Bombay, 170; Meteorology in America, 181; the Mean Direction of Cirrus Clouds over Europe, Dr. Hildebrandsson, 190; General Meeting at Florence of the Italian Meteorological Society, 207; Berlin Meteorological Society, 239; Dr. Neuhauss's Observations, 239; Rainfall of Southern India and Burmah, 278; Curious Phenomena at Stockholm, 279; New Station in Northern Queensland, 279; Stonyhurst College Observatory, 300; Meteorology in Java, 300; Cyclones in United States, 328; Weather of Southern Norway, 354; Cyclones in Sweden, 355; Remarkable Aérial Phenomenon at Jonköping, 375; Cloud-Measurement by Theodolites, 400; Meteorological Observatories at Pekin, 403; Meteorology in Switzerland, 426; Storms on Atlantic Coast of United States, 427; Congress of Meteorologists at Munich, 460; Average Velocities of Typhoons, 463; Statistics of Rainfall in East Indian Archipelago, 494; International Meteorological Committee, 501; Proposed Observatory near Chepstow, 503; Observations on Ben Nevis, 529; Meteorology of Ben Nevis, A. Buchan, 536; on the Rainfall of the British Islands, A. Buchan, 536; Meteorology in Madras, 541; Japanese Meteorology, 579; the Jesuit Establishments near Shanghai, 579; Scottish Meteorological Society, 636  
 Meteors: at Soedertelje, near Stockholm, 230; W. F. Denning, 597; April, W. F. Denning, 5; July, W. F. Denning, 342; August, H. B. Jupp, 342; W. F. Denning, 415; Meteor observed at Fontainebleau, E. P. Mounier, 496; Meteor seen at Stockholm, 515; Comet 1866 and the Meteors of November 14, 610  
 Meteoric Cycle and Stonehenge, R. Edmonds, 436  
 Meteoric Dust, B. A. Report on, 529  
 Meteoric Formations in Mexico, M. Violet d'Aoust, 376  
 Meteoric Stone found in Sweden, 36  
 Meteorites: Rev. E. Hill on the Average Density of Meteorites compared with that of the Earth, 556; Theoretical Views on the Detonation of, Bombicci, 633  
 Mexico, Proposed Geological Survey of, 112; Bursting of a Waterspout in, 133; Meteoric Formations in, M. Violet d'Aoust, 376  
 Michelson (Albert A.), M. Wolf's Modification of Foucault's Apparatus for the Measurement of the Velocity of Light, 6  
 Microbe, Koch's, on an Alkaloid Extracted from Liquid and in Cultivation of, A. G. Pouchet, 432  
 Microbes, Pathogenetic, on the Transmission from Mother to Fetus, and in Milk of, Koubassoff, 432  
 Micronesia, Prehistoric Structures in, Capt. L. U. Herendeen, 13  
 Micro-Organisms, the Removal from Water of, P. F. Frankland, 262  
 Micro-Organisms and Albumen in Solution, Action of Ozonised Air upon, J. J. Coleman, 561  
 Microphytes, Action of Cold on, Prof. M'Kendrick, 561  
*Micropterus phoxocephalus*, Nesting of, Chas. Bingham, 52  
 Microscopes, Theiler's, 112  
 Microscopic Drawings, Rochfort Connor, 633  
 Microscopic Preparations of the Skin, Drs. Blaschko and Lassar, 544  
 Microscopical Investigation of Vegetable Substances, Guide for the, Dr. W. J. Behrens, 193  
 Microscopy, the Value of Indian Ink in, Léo Errera, 37  
 Microtomist's Vade-Mecum, Arthur Bolles, Dr. E. Klein, F.R.S., 147  
 Mid-Lothian, Electrical Phenomenon in, Dr. Robert Lucas, 343  
 Migratory Birds, Early Departure from Sweden of, 427  
 Mikroskopischen Anatomie, Lehrbuch der Vergleichenden, Dr. Herman Fol, Dr. E. Klein, 293  
 Miles (Manly), Unconscious Bias in Walking, 293  
 Milford Haven, an Encysting Myzostoma in, P. Herbert Carpenter, 391  
 Mill (H. R.), on the Temperature of the Water at Firth of Forth, 70  
 Miller (A. K.) and H. E. Armstrong, on the Product of Gas Manufacture from Petroleum, 286  
 Miller (Hugh), on Some Results of a Detailed Survey of the Old Coast Lines near Trondhjem, Norway, 555  
 Millar (W. J.), Mechanical Telephone, 316  
 Milne (Prof. John), on the Observation of Earth-Tips and Earth-Tremors, 259; an Earthquake Invention, 573  
 Milne and Snow, Notes on the Kurile Islands, 135  
 Mimicry, Singular Case of, Graciano A. de Azambuja, 366  
 Mine to the Mint, History of a Lump of Gold from the, Alex. Watt, 340  
 Mineralogie, Lehrbuch der, Dr. Gustav Tschermak, 3  
 Minéralogie Appliquée aux Arts, à l'Industrie, au Commerce, et à l'Agriculture, Raoul Jagniaux, 28  
 Mineralogy in California, H. G. Hanks, 100  
 Mineralogy and Chemistry, Original Researches in, J. Lawrence Smith, 3  
 Minerals of British Borneo, 161  
 "Mineral Resources of the United States," A. Williams, 341  
 Mineral Products of the United States, 404  
 Mines, Shot-Firing in, W. Galloway, 596; Prof. C. G. Kreischer, 596  
 Minima of Algol, 86  
 Minor Planet, New, 464  
 Minot (Dr. Chas. Sedgwick), the New Endowment for Research, 297  
 Mirage in the Baltic, 112; in Sweden, 231, 279, 541, 552; in Dorsetshire, Rev. M. F. Billington, 552  
 Mississippi, Protection against Tornadoes on the, 279  
 Missionary, Protestant, Educational Work in China, 35  
 Mitchell (F. S.), the Birds of Lancashire, 241  
 Mittheilungen der Wiener Geographische Gesellschaft, 581  
 Mobangi River Exploration, 281  
 Model University, a, 367  
 Modulus of Elasticity, Dr. König on, 360  
 Mojsvar (A. Mojsisovics Edlen von), "Leitfaden bei zoologisch-zootomischen Präparirübungen," 171  
 Molecular Distances in Galvanic Polarisation, J. Larmor, 538  
 Molecular Formulae, Hartley, 87  
 Molecular Structure of Carbon Compounds and their Absorption Spectra, Researches on the Relation between the, Prof. W. N. Hartley, F.R.S., 93

Mollusca of the United States, 460  
 Monkeys and Water, Jerry Barrett, 367  
 Monnier (Le), on the Island of Hainan, 233  
 Montrose, Dr. J. C. Howden on the Glacial Deposits of, 555  
 Monuments, General Pitt-Rivers on the Preservation of, 587  
 Morgan (Prof. C. Lloyd), Some Experiments on the Vicinity of Ice, 16  
 Morphology of Insects' Eyes, Mr. Lowne on, Dr. E. A. Schäfer, F.R.S., 3  
 Morphology of the Mediterranean Coasts, Dr. Fischer, 163  
 Morphologisches Jahrbuch, 591  
 Morris, on Science in Jamaica, 182  
 Moseley (Prof. H. N., F.R.S.), "Den Norske Nordhavsexcursion, 1876-1878," Zoologie Pennatulida, 74; Fauna of the Seashore, 212, 243, 417  
 Mosquitoes, Destruction of Young Trout by, 515  
 Moss (Prof.), Respiration, 47  
 Motor Centres of the Brain and the Mechanism of the Will, Victor Horsley, 377  
 Mott (Henry A., Jun.), "Fallacy of the Present Theory of Sound," Dr. W. H. Stone, 75  
 Mouchez, Application of Photography to Mapping of Stars, 70  
 Mounier (E. P.), Meteor seen at Fontainebleau, 495  
 Mountain, the Highest, in Sweden, 404  
 Muir (M. M. Pattison), an Introduction to the Study of the Compounds of Carbon or Organic Chemistry, Prof. Ira Remsen, 99  
 Muir (Wm.), Earthquake-Proof Buildings, 245  
 Muirhead (Dr. Henry), Spectral Images, 55; on the Terminology of the Mathematical Theory of Electricity, 437  
 Muirhead (John), Death of, 540  
 Mull, Acclimatisation of Whitefish in, 515  
 Mullan (R. A.), Red Hail, 54  
 Müllenhoff (Dr.), the Locomotion of Animals, 496  
 Munk (Dr. J.), on the Formation of Fat in the Animal Body, 335  
 Munro (Dr. R.), on the Archaeological Importance of Ancient British Lake-Dwellings and their Relation to Analogous Remains in Europe, 588  
 Murché (Vincent T.), Botany, a Specific Subject of Instruction in Public Elementary Schools, 222  
 Murray's (Dr.), English Dictionary, 159  
 Murray (John), Great Ocean Basins, 581, 611  
 Museums, Overcrowding of, 12  
 Museums, the Author of "Museums of Natural History," 103  
 Museums, North American, 381  
 Mushrooms, Wild Edible, Dr. Olsen, Studies of, 162  
 Music Loan Collection, International Exhibition, Dr. W. H. Stone, 174  
 Musical Pitch, Standard, 9  
 Mustela itatis, H. Prys, 110  
 Myzostoma, an Encysting, in: Milford Haven, P. Herbert Carpenter, 391

Nachtigal (Dr. Gustav): Death of, 14; Proposed Monument to, 134, 184, 581; the African Natural History Collections of, 493  
 Nadaillac (Marquis de), Prehistoric America, Dr. E. B. Tylor, F.R.S., 593  
 Namaland or Namaqualand?, Dr. Schinz, 581  
 Names of Places, Native, New System of Orthography for, 244  
 Naples, Zoological Table at, 506  
 Napoli (D.), a New Integraph, 519  
 Nasini, on Atomic Refraction of Sulphur in Various Compounds, 87  
 Natal, New Bird in, J. E. Harting, 6  
 National Academy of Sciences, the, 35  
 National Academy of Sciences, Composite Portraits of Members of the, Raphael Pumpelly, 176  
 National Fish Culture Association, 134  
 Native Names of Places, System of Orthography for, 199, 244  
 Natural Gas Fuel, 40  
 Natural History Survey of Canada, Geological and, Alfred R. C. Selwyn, F.R.S., 242  
 Natural History, Guide to the Universal Gallery of the British Museum, L. Fletcher, 364  
 Natural History Collections of Dr. Nachtigal, the African, 493

Natural History Museum, Additions to the, 493  
 Naturalist's Societies, Scotch Union of, 85  
 "Naturalist's Wanderings in the Eastern Archipelago," Henry O. Forbes, Alfred R. Wallace, 218  
 Naukratis, W. M. Flinders Petrie on the Discovery of, 588  
 Naval Construction, the Directorship of, 374, 552  
 Navigation, Inland, Exhibition of Plans, &c., Connected with, at Brussels, 35  
 Nebula in Andromeda, Lord Rosse, F.R.S., 437  
 Nebula, New, 38  
 Needs, Our Present, 433  
 Negritos of the Philippines, 232  
 Neis (M. P.), on Laos, 166  
 Neolithic Age, Prof. Pigorini on the Worship of Stone Weapons in the, 48  
 Neptune, Prof. Pickering's Observation of, 12; Satellites of Uranus and, 553  
 Nerve-Endings, Dr. Benda's Preparations of Sensory and Motory, 520  
 Nesting of *Micropterus phoxocephalus*, Chas. Bingham, 52  
 Netto (Ladislaus), the Artificial Hill of Pacoval, Brazil, 408  
 Neuhausen (Dr.), Meteorological Observations, 239  
 Neunkirchen, in Germany, Experiments with Coal-Dust at, W. Galloway, 55  
 Neva, Soroloff's Analyses of Water of, 13  
 Nevada, Silver-Lead Deposits of Eureka, J. S. Curtis, 50  
 New Departure for the University of London, 265  
 New Guinea Exploration, Proposed Expeditions, 64; the Proposed Dutch Expedition to New Guinea, 87, 302; the Australian New Guinea Expedition, 403; H. O. Forbes's Expedition to, 552; Recent Explorations in, Coutts Trotter, 611  
 New Nebulae, 38  
 New South Wales, Royal Society of, 234; Linnean Society of, 238  
 New Spynie, Dr. R. H. Traquair, F.R.S., a Preliminary Note on a New Fossil Reptile Recently Discovered at, 556  
 New Star in Andromeda, Lord Rosse, F.R.S., 405; Dr. Wm. Huggins, F.R.S., 465; W. F. Denning, 465; J. Edmund Clark, 499; A. A. Common, F.R.S., 522; Geo. M. Seabroke, 523; A. Ricco, 523  
 New York, Submarine Earthquake at, 494  
 New Zealand, the Ruahine Range, 108; Central Solar Eclipses in, 86  
 Newall (H. Frank), on Certain Stages of Ocular After-Images, 77  
 Newcomb (Prof. S.), 375  
 Newsholme (Arthur), Hygiene—a Manual of Personal and Public Health, 221  
 Newton (Prof. Alfred, F.R.S.), "The Great Auk or Garefowl, its History, Archaeology, and Remains," Symington Grieve, 545  
 Newton (Howard), Timbers of the Straits Settlements, 160  
 Niagara: Preservation of Falls of, 131; the Rate at which they Recede Southwards, Edward Wesson, 229; E. L. Garrett, 244; the International Park at, 252  
 Nice Floating Dome, the, 297  
 Nice Observatory, Bischoffsheim's Floating Telescope Dome for, 62  
 Nicobar: E. H. Man on the Nicobar Islanders, 589  
 Nighjar, the Standard-Winged, J. E. Harting, 6  
 Nissen (Capt.) and Chronometer Observatories in Kiel and Hamburg, 230  
 Nitrates in Human Body, Dr. Weyl, 191  
 Nitrogen and Oxygen, Extraction of, from Atmospheric Air, 354  
 Noëting (Dr.), Expedition to Lebanon, 11  
 Nomenclature of Tonquin, Eccentricities of European, 15  
 Nomenclature and Notation, Electrical Definitions, Prof. Andrew Jamieson, 184  
 Nomenclature in Elasticity, Prof. Alex. B. W. Kennedy, 269; Robert E. Baynes, 316  
 Nordenskjöld (Baron A. E.), an Old Drawing of a Mammoth, 228  
 Nordland Coast, Rumoured Appearance of the Sea-Serpent off, 462  
 Norfolk and Norwich Naturalists' Society, 580  
 Normal Metamorphism, 214  
 Normal School of Science, Prof. Huxley, P.R.S., Dean of, 327

Norske Nordhav-Expedition, den 1876-78, G. Armauer Hansen, 51; Zoologie Pennatulida, Prof. H. N. Moseley, F.R.S., 74

North American Museums, 381

North American Water-Birds, Prof. S. F. Baird, Dr. T. M. Brewer, and R. Ridgway, 521

North Cape, Dispute as to Proprietaryship of, 302

North-Norway Fjords, how the were made, Karl Pettersen, 177

North-West England, Rainfall of, Alf. O. Walker, 271

Northern Latitude, High, a Word or Two on the Best and Safest Route by which to Attain a, John Rae, F.R.S., 565

Norway : Rainfall in, 37; Government Endowment of Research in, 207; Marked Salmon taken in, 302; Weather of Southern, 354; Inclement Summer in, 427; July Weather in Southern, 542; Pennatulida of the Norwegian North Atlantic Expedition, Prof. H. N. Moseley, F.R.S., 74; Norwegian Expedition to Finnmarken, 114; Biological Station at Christiania, 280; Norwegian Testimony to the Aurora Sound, Dr. Sophus Tromholt, 499; Publication of the Norwegian Commission on the Measurement of Degrees in Europe, 547

Nova of 1572, Tycho's, 162

Nova of 1670, Anthelm's, 355

Nucleine, Dr. Kossel, 520

"Nutzbarren Pflanzen und Tiere Amerikas und den alten Welt vergleichen in Bezug auf ihren Kultureinfluss, Die," Dr. L. Höck, 413

Numidian Marbles, Lieut.-Col. Playfair on the Rediscovery of, in Algeria and Tunis, 556

Nuova Scienza, La, 516

Nuovo Giornale Botanico Italiano, 21

Nyassa (Lake), Dr. Robert Lawes on the Manners and Customs of the Bantu Tribes of, 589

Observation of Earth-Tips and Earth-Tremors, on the, Prof. John Milne, 259

Observatories: Harvard College, U.S., 37; the Ben Nevis Meteorological, 61, 252; the Hong Kong, 84; Opening of the Leander McCormick, 84; Observatory of Paris, 112; Visitation of the Royal Observatory, Greenwich, 138; Cambridge Observatory, 253; Stonyhurst College, 300; the Lick, 320; Cincinnati, 356

Occultation, Daylight, of Aldebaran, 86, 183, 610

Occultations of Vesta, 355

Ocean Basins, Great, John Murray, 581, 611

Oceans of Water, Air, and Ether, Wave of Translation in the, J. Scott Russell, F.R.S., 546

Ocular After-Images, on Certain Stages of, H. Frank Newall, 77

Ocular After-Images and Lightning, Shelford Bidwell, 101; A. S. Davis, 126

Ocular Images and After-Images, W. M. Laurin, 197

Odell (W.), the Three First Years of Childhood, Bernard Perez, 412

Odorous Matters on Invertebrate Animals, Effects of, Herr Gruber, 609

Ohm, Determination of the, Self Induction in Relation to Certain Experiments of Mr. Willoughby Smith and to the, Lord Rayleigh, F.R.S., 7

"Ohm's (or Langberg's) Ellipses," on Cases of the Production of, by Biaxial Crystals, H. G. Madan, 414

Old Red Conglomerate, Lower: Prof. Edward Hull, F.R.S., on the Occurrence of, in the Promontory of the Fanad, North Donegal, 556

Olsen's (Dr.) Studies of Wild Edible Mushrooms, 162

Olsen (Herr A.), Effort at Teaching the Public of Christiania Practical Astronomy, 133

Ommanney (Admiral Sir Erasmus, F.R.S.), Antarctic Discovery, 565

Oölogy : Collection of Birds' Eggs at Upsala, 280

Ophiuchi, Binary-Star 70, 402

Optics: Intraocular Pressure, Dr. Höltzke, 191; Observations on Interference-Phenomena Produced by Glasses Parallel to the same Plane, Dr. Lummer, 311; Werricke's Experiments on the Reflection of Light, Prof. von Helmholtz, 312; the Influence of Blood-Pressure on Intraocular Pressure, Dr. Höltzke, 336; Experiments on Double Refraction, D. S. Stroumbo, 432

Orbits, Cometary, 162

Orchid Exhibition, 79

O'Reilly (Prof. J. P.), Aurora, 54

Organic Analysis, Commercial, Alfred H. Allen, 410

Organic Chemistry, Prof. Ira Remsen, M. M. Pattison Muir, 99

"Orientalist," the Ceylon, 208

Orientals, Baldness among, Herr Schweiger, 35

Origin of the Cereals, 116

Origin of Thunderstorm Electricity, on the, Prof. L. Sohncke, 406

Orinoco, Chaffanjon's Mission on the, 184; Exploration of the, 356

Ornithology, 119; Woodpeckers Nesting in Ants' Nests, 52; Notes on *Mustela itatsi* and *Corvus japonensis*, H. Pryer, 110; a Query as to Swallows, 197; the Birds of Lancashire, F. S. Mitchell, 241; Collection of Birds' Eggs at Upsala, 280; Allan Hume's Indian Ornithological Collection, 327; Economic Ornithology in United States, 329; Ornithology in United States, 461; Miss Beatrice Lindsay on the Development of the Sternum in Birds, 540

Orthography, New System of, for Native Names of Places, 199, 244

Ortolan Bunting in Scotland, Capture of, 119

Osteology, Dr. Dudgeon's Chinese Translation of Holden's, 514

Otago University Museum, Notes from the, Prof. T. Jeffery Parker, 586

Outburst of Lava from Vesuvius, the New, H. J. Johnston-Lavis, 55

Owen (Sir Richard, F.R.S.), on American Evidence of Eocene: Mammals of the "Plastic Clay" Period, 556

Oxelösund, Mirage seen at, 231

Oxus, Col. Lockhart's Expedition, 429

Oxygen, Combustion of Phosphorus and Carbon in, II. B. Baker, 87

Oxygen, New Process of Liquefying, M. L. Cailletet, 584

Oxygen and Nitrogen, Extraction of, from Atmospheric Air, 354

Oysters out of Water, Longevity of, Prof. Verrill, 404; Resting Position of, J. T. Cunningham, 597; Col. H. Stuart-Wortley, 625

Ozone at Sea, Dr. W. J. Black, 416

Ozonised Air, Action of, upon Micro-Organisms and Albumen in Solution, J. J. Coleman, 561

Pacific, the German Annexations in, 429

Page (A. Shaw), Long Sight, 103

Pacoval, the Artificial Hill of, L. Netto, 408

Pagenstecher (Dr.), on a New Species of Frugivorous Bat (*Megaloglossus webermanni*), 374

Palat's (Lieut.) Mission to the Sahara, 302

Palermo, Earthquake at, 609

Palestine, the Survey of, 506

Pamir, Recent Explorations of the, 59; Ivanoff, 113; Topography of the, Kosyakoff, 163

Panama, I-thimus of, Piercing the, 370

"Papuans and Melanesians," Robidée van der Aa, 16

"Paradise Found," Wm. F. Warren, LL.D., 28

Parasites, Animal of the Sugar Cane, H. Ling Roth, 268

Paraxanthine and Heteroxanthine, Dr. Salomon, 496

Paris: Academy of Sciences, 23, 47, 70, 94, 119, 144, 168, 190, 216, 238, 263, 288, 311, 384, 408, 432, 495, 519, 543, 568, 591, 616, 640; Academy of Sciences Biennial Prize Awarded to Dr. Brown-Séquard, 208; Geographical Society, 14, 113, 164, 302, 357; Polytechnic School, 61; Labour Exhibition, 401; Observatory of Paris, 112; Experiments on Cremation of Body in Common Stove, 161; Electric Lighting in, 514; Arrival of Thirteen Young Canadians for Study at, 636

Parker (Prof. T. Jeffery), Notes from the Otago University Museum, 586

Pasteur (Louis), his Life and Labours, Dr. E. Klein, F.R.S., 146; on Inoculation for Rabies, 633

Patent Law in Japan, 208

Patents, Report of Comptroller-General of, 253

Patriarch Joseph, Province, Lake, and Canals ascribed to the, Cope Whitehouse, 565

Paulitschke and Hardegger's Journey to Harrar, 581

Peach (B. N.) and J. Horne, on the Geology of Durness and Eriboll, with Special Reference to the Highland Controversy, 558

Pearson (A. N.), Forecasting of Barometric Variations, 574

Peat : W. Ivison Macadam on Certain Diatomaceous Deposits (Diatomite) from the Peat of Aberdeenshire, 559

Pekin, Astronomical and Meteorological Observatories at, 403

Pel Poisoning Case : Experiments as to Possibility of Burning a Body in Common Stove, 161

Pellew Islands, the, 464

Pelvic Brim, Prof. Turner on the Index of, as a Basis of Classification, 586

Penfold (S. L.), Analcite Crystals, 554

Pennatulida of the Norwegian North Atlantic Expedition, Prof. H. N. Moseley, F.R.S., 74

Penning (W. H.), Geology of the Transvaal Gold-fields, 190

Penny Science Lectures, 609

Pentane Standard, Photometry with the, A. Vernon Harcourt, 537

Perak, Stone Axes, A. Hall, 626

Pereyaslavtseff (Miss), on the Development of Rotifers, 579

Perez (Bernard), the Three First Years of Childhood, W. Odell, 412

Periodical Comets of De Vico and Barnard, 183

Periodical Comets in 1886, 636

Periodicals, Catalogue of Scientific, H. C. Bolton, 426

Periodicity of the Cyclones of the Indian Ocean South of the Equator, on a Supposed, Chas. Meldrum, F.R.S., 613

Perkin (Dr.), on the Coal-Tar Colours, 303, 330

Perouse (La), Discovery of the Relics of the Companions of, in the Expedition of 1782, 210

Persia, Statistics of Population of, 64

Persia, South-Eastern, Capt. Jennings' Exploration of, 88

Perthes of Gotha, the History of the Great Geographical House of, 554

Perturbations, Telegraphic, a Yearly and a Daily Period in, Dr. Sophus Tromholt, 88

Petals, Staminody of, J. C. Costerus, 53

Petermann's Mittheilungen, 88, 184, 356, 554

Petrie (W. M. Flinders), his Collection of Egyptian Antiquities, 353; on the Discovery of Naukratis, 588; Two Generalisations, 597

Petroleum, Plutarch on, W. H. Deering, 29

Petroleum, Products of Gas Manufacture from, H. E. Armstrong and A. K. Miller, 286

Petroleum Gas used by Ironworks, &c., at Pittsburg for Fuel, 463

Pettersen (Karl), How the North-Norway Fjords were Made, 177

Phænology : "Resultate der wichtigsten pflanzen-phänologischen Beobachtungen in Europa nebst einer Frühlingskarte," Dr. H. Hoffmann, 146

Phanerogams, Evolution of the, MM. Marion and Saporta, J. Starke Gardner, 289; Prof. W. C. Williamson, F.R.S., 364

Pharmacology, Therapeutics, and Materia Medica, Text-Book of, Dr. T. Lauder-Brunton, F.R.S., Prof. Arthur Gamgee, F.R.S., 337

Phenols of Complex Function, Berthelot, 592

Phenomenon, Electrical, J. B. A. Watt, 316

Philadelphia, Zoological Society of, 85

Philippines : the Negritos of, 232; the Geology of the, 302

Philological Society's English Dictionary, 159

Philosophical Society of Glasgow, 212

Phoriaspongiae, the, Dr. R. von Lendenfeld, 119

Phosphorus, Combustion of, in Oxygen, H. B. Baker, 87

Phosphorus-Poisoning, on the Formation and Conveyance of Fat in, Dr. Leo, 120

Photographing the Aurora Borealis, Carl Siewers, 29

Photography : Balloon, 420; Application of Photography to Mapping of Stars, Mouchez, 70; Photographs of Lightning-Flashes, Dr. Kayser, 111; Balloon Ascent for Photography, Gaston Tissandier, 182; Photographs of Animals in Movement, Dr. Müllenhoff, 496; Spectral Photometric Researches on some Photographic Sensitisers, 519; Photographic Society, 552; Photographic Action on Ebonite, Edward E. Robinson, 626

Photometer Made with Translucent Prism, J. Joly, 537

Photometry, the Harvard, 368

Photometry with the Pentane Standard, A. Vernon Harcourt, 537

Phthisis of the Lungs, Bacillary, Germain Séé, 341

Physical Society, 22, 70, 167, 191, 215, 263

Physical and Mathematical Papers, Sir Wm. Thomson's, Prof. Helmholtz, F.R.S., 25

Physics, Lessons in Elementary Practical, Prof. Balfour Stewart, F.R.S., and W. W. Haldane Gee, 339

Physics and Engineering at University College, the Chair of, 54

Physiology : Physiological Society of Berlin, 239; W. Preyer, on Physiology of the Embryo, F. J. Allen, 267; Dr. J. Munk on the Formation of Fat in the Animal Body, 335; on the Influence of Cortex Cerebri on Temperature of Human Body, Prof. Eulenburg, 496; Pischelis on the Development of the Thyroid Gland, 496; Dr. Benda's Preparations of Sensory and Motory Nerve-Endings, 520; Physiology of the Sense of Smell, Herr Aronsohn, 520; Dr. Biondi on the Origin of the Spermatozooids, 544; the Functions of the Sebaceous Glands, Prof. Fritsch, 544; "Physiologische Pflanzenanatomie in Grundriss dargestellt," Dr. G. Haberlandt, 594

Pickering's (Prof.) Observations on Neptune, 12

Pigorini (Prof.), on the Stone Age Articles Discovered at Breonio Veronese, 47; the Worship of Stone Weapons in the Neolithic Age, 48

Pilcomayo River, Col. Feilberg's Exploration of, 64

Pinto (Major Serpa), Discovery of Coal-fields in Africa by, 164

Pirie (Prof.), on Calculating the Surface-Tensions of Liquids by Means of Cylindrical Drops or Bubbles, 536; on the Surface-Tension of Water which contains a Gas Dissolved in it, 536

Pischelis (Herr), on the Development of the Thyroid Gland, 496

Pisciculture, 375, 402; Shad-Rearing in United States, 112; in Scotland, 298; Ova of Dogfish at Royal Aquarium, 515; Acclimatisation of Whitefish in Mull, 515

Pishpek, Earthquake at, 329

Pitch, Standard, 9

Pitcher Plant, 295; W. Watson, 341

Pitt-Rivers (Gen.), on the Preservation of Ancient Monuments, 587

Place-, System of Orthography for Native Names of, 199, 244

Plant Anatomy, Physiological, 594

Plant, Pitcher, 295; W. Watson, 341

Plants, Catalogue of Canadian, John Macoun, 242

Plants in South Australia, Culture of Useful, 402

Plants, Digestion of Proteids in, Sidney Martin, 563

Plants and Drugs, New Commercial, Thos. Christy, 125

"Plastic Clay" Period, Sir Richard Owen, F.R.S., on the American Evidences of Eocene Mammals of the, 556

Platinoid, Electric Resistance of, J. T. Bottomley, 166

Playfair (Sir Lyon, F.R.S.), on Science, 433; Inaugural Address at the Meeting of the British Association at Aberdeen, 438

Playfair (Lieut.-Col.), on the Rediscovery of Lost Numidian Marbles in Algeria and Tunis, 556

Pliocene Deer, Contributions to History of, W. B. Dawkins, F.R.S., 118

Plutarch on Petroleum, W. H. Deering, 29

Poison of the Cobra di Capello, on the, Herr Gnezl, 71

Pol-Lias, Bran de, Return of, 581

Polakowsky (H.), the Historical Value of the "Araucana," 429

Polakowsky's (Dr.) Explorations in Costa Rica, 184

Polar Temperatures, Lena, Record of, 16

Polarisation, on Molecular Distances in Galvanic, J. Larmor, 536

Polek (Dr.), the Lippowans, 429

Port Hamilton Islands, 209

Portraits, Composite, of Members of the National Academy of Sciences, Raphael Pumpelly, 176; John Cleland, 197; Dr. C. M. Ingleby, 224

Portuguese Explorations in Africa, 429

Post-Existence, Pre-Existence and, of Thought, Dr. Hyde Clarke, 102

Posthumus (N. W.), Death of, 254

Potanin's Last Voyage to China, 135

Potash, Chlorate of Iridescent Crystals of, H. G. Madan, 102; Prof. G. G. Stokes, 224

Pouchet (A. G.), on an Alkaloid Extracted from Liquid used in Cultivation of Koch's Microbe, 432

Poulton (E. B.), the Essential Nature of the Colouring of Phytophagous Insects, 91  
 Pozzo (Enrico dal), "Un Capitolo de Psicofisiologia," 413  
 Practical Physics, Lessons in Elementary, Prof. Balfour Stewart, F.R.S., and W. W. Haldane Gee, 339  
 Pre-Existence and Post-Existence of Thought, Dr. Hyde Clarke, 102  
 Prece (W. H., F.R.S.), "On Charging Secondary Batteries, " 142 ; on Remarkable Occurrence during the Thunderstorm of August 6, 1885, 536 ; on Domestic Electric Lighting, 536  
 Prehistoric America, Marquis de Nadaillac, Dr. E. B. Tylor, F.R.S., 593  
 Prehistoric Burial-Grounds, T. A. Archer, 548  
 Prehistoric Cemetery, 518  
 Prehistoric Remains in Switzerland, 84  
 Present Needs, Our, 433  
 Preservation of Niagara, 131  
 Pressure-Flxion, Prof. H. Carvill Lewis on some Examples of Pressure-Flxion in Pennsylvania, 559  
 Prestwich (Prof., F.R.S.), on Regional Metamorphism, 214  
 Preyer (W.), "Specielle Physiologie des Embryo," F. J. Allen, 267  
 Prime Meridian Question, the French View of the, 159  
 Primitive Peoples of America, the, Alexander von Humboldt, 464  
 Primitive Races, on the Manifestation of the Aesthetic Faculty among, Dr. D. Wilson, 259  
 Prisms, on the Use of Carbon Bisulphide in, Dr. Henry Draper, 67  
 Prisms, on a Photometer made with Translucent, J. Joly, 537  
 Prjevalsky (Col.), his Hoang-Ho Journey, 15, 63, 253 ; Thibet Expedition, 493, 635  
 Proceedings of the Boston Natural History Society, 519  
 Proceedings of the Linnean Society of New South Wales, 591  
 Proceedings of the Royal Society of Queensland, 495  
 Products, Mineral, of the United States, 404  
 "Properties of Matter," Prof. Tait's, Lord Rayleigh, F.R.S., 314  
 Proposed Change in the Astronomical Day, a, M. D. Downing, 523  
 Proteids in Plants, Digestion of, Sidney Martin, 563  
 Protoplasm, Chemical Difference between Living and Dead, Dr. Oscar Loew, 563  
 "Protozoa," Bütschli's, Prof. E. Ray Lankester, F.R.S., 145  
 Protractor and Goniometer, a New Form of, W. F. Stanley, 402  
 Preyer (H.), Notes on *Mustela itatsi* and *Corvus japonensis*, 110 ; Lepidoptera of Great Britain and Japan compared, 427  
 Psicofisiologia, un Capitolo di, Enrico dal Pozzo, 413  
 Ptomaines, Prof. Brieger on the, 239  
 Public Opinion and State Aid to Science, 497  
 Pulsation in the Veins, 437 ; J. Hippisley, 389, 574 ; Dr. J. W. Williams, 466  
 Pumppelly (Raphael), Composite Portraits of Members of the National Academy of Sciences, 176

Quain (Dr.), on the Low Popular Estimate of Medicine, 608  
 Qualitative Inorganic Analysis, a Practical Treatise on Practical Chemistry and, Frank Clowes, 2  
 Quarterly Journal of Microscopical Science, 116, 591  
 Quatrefages (M. de), the Red Indians, 164  
 Queensland, Northern, Meteorological Station in, 279  
 Queenwood College Mutual Improvement Society, 553  
 Question of Civil and Astronomical Time, 245  
 Quinquefoliate Strawberry, E. Lewis Sturtevant, 126

Rabbits in the Western Islands, Are there ?, Herbert Ellis, 575  
 "Rabenhorst's Kryptogamen Flora von Deutschland, Oesterreich, und der Schweiz," 101  
 Rabies, Pasteur on Inoculation for, 633  
 Rackarock, the Hell Gate Explosion and, Dr. H. Sprengel, F.R.S., 625  
 Radar (R.), Elements of Brooks's Comet, 543  
 Radiant Energy Recorder, on a, Prof. J. W. Clark, 233, 343  
 Radiant Light and Heat, Prof. Balfour Stewart, F.R.S., 322, 389, 394, 413, 422, 550

Radiant Matter Spectroscopy, W. Crookes, F.R.S., and M. Lecoq de Boisbaudran, 283  
 Radiation, Molecular, in Incandescent Lamp, Dr. J. A. Fleming, 263  
 Radkofer (Prof. L.), Application of the Anatomical Method to the Determination of the Materials of the Linnean and Old Herbaria, 563  
 Rae (John, F.R.S.), a Word or Two on the Best and Safest Route by which to attain a High Northern Latitude, 565  
 Railway Congress at Brussels, 401  
 Railway Locomotion on the Present Principle, William Hedley the Inventor of, M. Archer, 595  
 Railway Sleepers, the Question of Metal, 401  
 Rainbow, B. de Spinoza's Work on the, 30  
 Rainbow Phenomenon, Chas. Croft, 30 ; Prof. Silvanus P. Thompson, 54  
 Rainbow, Tertiary, T. C. Lewis, 523, 626  
 Rainfall in Norway, 37  
 Rainfall of N.W. England, Alf. O. Walker, 271  
 Rainfall for 1884, British, G. J. Symons, 463  
 Rainfall in East Indian Archipelago, Statistics of, 494  
 Rainfall in the Climate of London, on the Sequence of Mean Temperature and, Dr. Courtney Fox, 536  
 Rainfall of the British Islands, A. Buchan, 536  
 Rains in Eastern Asia, Extraordinary, 461  
 Range, the Ruahine, New Zealand, 108  
 Rarities, Five Mathematical Book, 30  
 Rats at Inventions Exhibition, 112  
 Raudnitz (Dr.), a Vasomotor Centre in Cortex and Cerebrum, 119  
 Ravenstein (E. G.), Batho-Hypsographical Maps, with Special Reference to a Combination of the Ordnance and Admiralty Surveys, 565  
 Rayleigh (Lord, F.R.S.), Self-Induction in Relation to Certain Experiments of Mr. Willoughby Smith and to the Determination of the Ohm, 7 ; the Theory of Illumination in a Fog, 22 ; on a Monochromatic Telescope, 22 ; Prof. Tait's "Properties of Matter," 314 ; on the Thermodynamic Efficiency of Thermopiles, 536  
 Rays, Red, after Sunset, Geo. F. Burder, 466  
 Reactions, Chemical, Influence of Dilution and Excess on, Utrecht, 87  
 Reade (Mellard), the North Atlantic as a Geological Basin, 609  
 Reading School, Opening of Chemical Laboratory at, 328  
 Reale Accademia dei Lincei, 47  
 Recorder, Radiant Energy, Prof. J. W. Clark, 233, 343  
 Red Glows, Prof. Ricco, 120  
 Red Hail, C. Evans, 54 ; Prof. Théodore Schwedoff, 437  
 Red Indians, the, M. de Quatrefages, 164  
 Red Men, E. F. im Thurn on the, about the Roraima, 587  
 Red Rays after Sunset, Geo. F. Burder, 466  
 Red River Route to South-West China, 554  
 Red Sea and the Mediterranean, on the Cause of the Extreme Dissimilarity between the Faunas of the, Prof. E. Hull, F.R.S., 560  
 Red Spot on Jupiter, W. F. Denning, 626  
 "Reecken van Kanssen," 30  
 Refraction, Atomic, of Sulphur in Various Compounds, Nasini, 87  
 Refraction, Double, Experiments on, D. S. Stroumbou, 432 ; on a Point in the Theory of, R. T. Glazebrook, F.R.S., 538  
 Regional Metamorphism, by Prof. Prestwich, F.R.S., 214  
 Reian Moeris, Projected Restoration of the, and the Province, Lake, and Canals ascribed to the Patriarch Joseph, Cope Whitehouse, 565  
 Reichardt (Dr. H. W.), Death of, 328  
 Remsen (Prof. Ira), an Introduction to the Study of the Compounds of Carbon on Organic Chemistry, M. M. Pattison Muir, 99  
 Renard (Prof. A.), on some Rock Specimens from the Islands of the Fernando Noronha Group, 556  
 Rendiconti della R. Accademia delle Scienze di Bologna, 1884-85, 335  
 Rendiconti del R. Istituto Lombardo, 45, 68, 117, 214, 237, 310, 359, 384, 568  
 Reports of the United States Commission of Fish and Fisheries for 1881-82, J. T. Cunningham, 79  
 Research, Zoological, 43  
 Research, the New Endowment for, Dr. Chas. Sedgwick Minot, 297

Respiration, Prof. Mosso, 47  
 Resting Position of Oysters: J. T. Cunningham, 597; Col. H. Stuart Wortley, 625  
 Revue d'Anthropologie, 615  
 Rey (Dr. Philippe), on the Weight of the Cerebral Lobes, 615  
 Reynolds (Prof. Osborne, F.R.S.), on the Steam Indicator, 137; on the Dilatancy of Media Composed of Rigid Particles in Contact, 535  
 Rhine, the, Opening of Direct Steam Traffic between Cologne and Sea, 164  
 Rhodium, Three New Compounds of, 359  
 Ricco (Prof. R.), Red Glows, 120; New Star in Andromeda, 523  
 Rich (Mrs. Caroline W. D.), Hoar Frost, 30  
 Richardson (Clifford), Chemical Composition of American Grasses, Prof. W. Frear, 525  
 Richmond Park, Trees Struck by Lightning in, 460  
 Richmond, Surrey, Notes on Deep Boring at, Prof. Judd, F.R.S., and C. Homersham, 310  
 Ridgway (R.), "Water-Birds of North America," 521  
 Riebeck (Dr. Emil), Chittagong Hill Tribes, 169; Death of, 180; "Chittagong Hill Tribes," Zoology of the Gayal and Gaur, W. T. Blanford, F.R.S., 243  
 Rigid Particles in Contact, on the Dilatancy of Media Composed of, Prof. Osborne Reynolds, 535  
 Riley (Prof.), on Cicada septendecim, 253  
 Riley (James), Rise and Progress of the Scotch Steel Trade, 429; an Experimental Cupola Furnace, 430  
 Riveted Joints, Prof. Kennedy on, 21  
 Rivista Scientifico-Industriale, 45, 117, 189, 359, 568, 615  
 Roberts (Prof. Chandler, F.R.S.), on the Development of Technical Instruction in Metallurgy, 608  
 Robin (M.), Death of, 578  
 Robinson (Edward E.) Photographic Action on Ebonite, 626  
 Rock-Round Glasgow, Among the, Dugald Bell, 624  
 Rocky Mountain Region of Canada, on the Mesozoic Floras of the, Sir W. Dawson, F.R.S., 164  
 Roman Sanitary Congress, the, 62  
 Roman Lettering adopted by Japanese Scientific Societies for their Proceedings, 494  
 Romans, the Topography of Italy under the, 376  
 Rome: Reale Accademia dei Lincei, 95, 120; Discovery of Stores of Elephants' Tusks and Lentils in, 279; International Sanitary Conference in, 217  
 Romanes (Dr. Geo. J., F.R.S.), Homing Faculty of Hymenoptera, 630  
 Rookwood (Prof. C. G.), American Earthquakes, 300; Recent Progress in Vulcanology and Seismology, 609  
 Roraima, E. F. in Thurn on the Red Men about, 587  
 Ross (Lord, F.R.S.), Nebula in Andromeda, 437; the New Star in Andromeda, 465  
 Rotating Vacuum Tube, on Certain Spectral Images Produced by a, Shellard Bidwell, 30  
 Roth (H. Ling), Animal Parasites of the Sugar-Cane, 268  
 Rothamsted, Field Experiments at, Prof. J. Wrightson, 58  
 Rotifers, on the Development of, Miss Pereyaslavskiy, 570  
 Rougerie (Mgr., Bishop of Pamier), the Anemogene, 519  
 Rowan (F. J.), the Iron Trade of Scotland, 429  
 Royal Agricultural Society of England, Journal of, 222  
 Royal Aquarium, Dogfish Ova at, 515  
 Royal Archaeological Institute, the, 252; W. M. Flinders Petrie's Collection of Egyptian Antiquities at, 333  
 Royal Geographical Society: the New President, 11; Anniversary of the, 136  
 Royal Geographical Society of Antwerp, 302  
 Royal Horticultural Society and the Exhibition of Colonial Plants, &c., 278  
 Royal Institute of British Architects, 133  
 Royal Institution, 85  
 Royal Meteorological Society, 23, 118, 190, 287, 552  
 Royal Observatory, Greenwich, Visitation of the, 138  
 Royal Society, 34, 45, 68, 91, 109, 117, 132, 142, 166, 189, 214, 237, 262; New Fellows, 10, 132; Conversazion, 158  
 Royal Society of Canada, 258  
 Royal Society of New South Wales, 234, 264, 432, 462  
 Ruahine Range, the, New Zealand, 105  
 Rucker (Prof. A. W.), on the Self-Regulation of the Compound Dynamo, 22; Liquid Films, 210  
 Rüdorff (F.), Solubility of Salt Mixtures, 519  
 Rugby School Natural History Society, 62  
 Rule, the Slide, C. V. Boys, 627  
 Rule of Road: George Campbell, M.P., on the Rule of the Road from an Anthropological Point of View, 587  
 Rundschau für Geographie und Statistik, 464  
 Russell (H. C.), on the Rising of the Eastern Coast of Australia, 234  
 Russell (J. Scott, F.R.S.), Wave of Translation in the Oceans of Water, Air, and Ether, 546  
 Russell (Dr. W. J., F.R.S.), Spectroscopic Observations on Dissolved Cobaltous Chloride, 143  
 Russia: Publications of the Russian Geographical Society, 15, 61, 163, 168, 495; Izvestia of the, 59; Fauna of Russian Central Asia, Rev. Dr. Henry Lansdell, 56; Industrial Education in, 63; Thunderstorms in, Klossowski, 160; Female Education in, 162; "Russian Central Asia, including Kuldja, Bokhara, Khiva, and Merv," Dr. Henry Lansdell, 194; Devonian System of Russia, 307; Science in Russia, 590  
 Russo-Afghan Boundaries, the, 88  
 Ryan, Prof. John, 514  
 Rye (E. C.), Zoological Record for 1883, 2  
 Rzehak (A.), on the Causes of the Andalusian Earthquakes, 133

Sacrificial Stone, an Ancient, of North-West Canada, Jean L'Heureux, 46  
 Sahara, the, Artesian Wells in the, 110; Exploration of, Teisserenc de Bort, 164; Lieut. Palat's Mission to the, 302  
 St. Andrews Marine Laboratory, Prof. McIntosh, 563  
 St. John (Charles), "Tour in Sutherlandshire," 355  
 Sakés, the, 428  
 Saline Solutions, Effect of Immersion of Solid Bodies in, J. Thoulet, 87  
 Salmon (George), Lessons Introductory to the Modern Higher Algebra, 411  
 Salmon: in the Thames, Landlocked, 254; Marked, taken in Norway, 300; the Capability of, to Jump Waterfalls, Prof. Landmark, 329; Incubation of Salmon Ova, 609; Hybridisation of Salmonidae at Howietown, Francis Day, 562  
 Salomon (Dr.), Xanthine Bodies in Urine, 496  
 Salt Industry in Cheshire, German Mission to Inquire into, 494  
 Salt Mixtures, Solubility of, F. Rüdorff, 519  
 Salt Production in America, 207  
 Sand, Sonorous, Prof. Bolton, 400  
 Sandhills of Gascony, the, M. Cambrelent, 375  
 Sanitary Conference in Rome, International, 62, 85, 217  
 Sanitary Congress, National, 513  
 Sanitary Institute of Great Britain, 207; Anniversary Meeting, 230; Annual Congress of, 523  
 Saporta (M.) and M. Marion, "L'Evolution du Régne Végétal—Les Phanérogames," J. Starkie Gardner, 289  
 Sarjeftjäkko, the Highest Mountain in Sweden, 404  
 Satellites of Uranus and Neptune, 553  
 Saturn, Mars, Jupiter, W. F. Denning, 548  
 Saunders (Edward), "Dead Humble-Bees under Lime-Trees, 427  
 Saunders (Trelawney), Retirement of, 426  
 Schäfer (Dr. E. A., F.R.S.), Mr. Lowe on the Morphology of Insects' Eyes, 3; "Essentials of Histology," Dr. E. Klein, F.R.S., 388  
 Schinz (Dr.), Namaqualand or Namaland, 581  
 Schlagintweit (Robert von), Death of, 133  
 Schliemann (Dr. H., F.S.A.), Presentation of Gold Medal of Royal Institute of British Architects to, 133  
 Schmidt (Prof. Fredrich), on the Trilobites of Eastern Siberia, 208  
 School, Indian Forest, Major F. Bailey, 564  
 Schools, Public, Neglect of Science at, Sir John Lubbock, 552  
 Schröter (Dr. J.), "Kryptogamen-Flora von Schlesien," 76  
 Schunk (Edw., F.R.S.), Contributions to the Chemistry of Chlorophyll, 117  
 Schuster (Dr. Max), on Some Results of the Crystallographic Study of Danburite, 556  
 Schwedoff (Prof. Theodore), Red Hail, 437  
 Schweiger (Herr), Baldness among Orientals, 36  
 Schweinfurth (Dr.), Prehistoric Stone Implements of Eastern Egypt, 161  
 Science: Col. Murdoch Smith appointed Director of the Science

and Art Museum, Edinburgh, 10; Sir John Lubbock on Science, 11; the National Academy of Sciences, 35; Robert Browning as a Scientific Poet, Edward Berdoe, 36; the Common Sense of the Exact Sciences, W. K. Clifford, Prof. P. G. Tait, 124; Science in Jamaica, Morris, 182; Report on the Scientific Results of the Voyage of the *Challenger*, 203, 249; Manual of Health Science, Andrew Wilson, 221; Year-Book of Scientific Societies, 231; Science and Art Department, 237; Manchester and District Association of Science and Art Teachers, 300; Science in Bohemia, 308; a Possible Windfall for Science, 313; Dr. Hyde Clarke, 342; Coordination of the Scientific Bureaus of the U.S. Government, 317; the School of Science at South Kensington, 327; Science in Colorado, 330; Science at Marlborough College, 401; "Scientific Culture," Dr. J. P. Cooke, 426; Sir Lyon Playfair on Science and the State, 438; Sir Lyon Playfair on Science and Secondary Education, 439; Sir Lyon Playfair on Science and the Universities, 441; Sir Lyon Playfair on Science and Industry, 442; Public Opinion and State Aid to Science, 497; American Association for the Advancement of Science, 510; Science in Russia, 590; the Present State of Science in Italy, 609; Three Martyrs of Science of the Nineteenth Century, 624; Century of Science in Bengal, 638

Slater (Dr. P. L.), "Torresia," a Proposed Name for British New Guinea, 357; "Furculum" or "Furcula," 466

Scotland: Union of Scotch Naturalists' Societies, 85; Rise and Progress of the Scotch Steel Trade, James Riley, 429; the Iron Trade of Scotland, F. J. Rowan, 429; Annual Report of the Fishery Board for Scotland for 1884, 281; Pisciculture in Scotland, 298; Geography of Scotland, What has been done for the, and What Remains to be done, H. A. Webster, 565; Scottish Marine Station, J. T. Cunningham, 176; Scottish Meteorological Society, 300, 636

Scratching Spectra Produced in Glass by, E. F. J. Love, 270

Sea, on the Depth to which the Sun's Light will Penetrate into the, Fol and Sarasin, 132

Sea, Ozone at, Dr. W. J. Black, 416

Sea and Air, Observations of the Temperature of the, made during a Voyage from England to the River Plate in the s.s. *Leibnitz*, J. Y. Buchanan, 126

Sea-Fisheries, Value of a Marine Laboratory to the Development and Regulation of our, Prof. E. Ray Lankester, F.R.S., 65

Sea-Coasts, Erosion, 530

Sea-Serpent off Nordland Coast, Rumoured Appearance of the, 462

Seabroke (Geo. M.), New Star in Andromeda, 523

Seashore, Fauna of the, W. R. Hughes, 294; Arthur R. Hunt, 243, 390; Prof. H. N. Moseley, F.R.S., 212, 417

Sebaceous Glands, the Functions of the, Prof. Fritsch, 544

Secondary Generators of Messrs. Gaulard and Gibbs at the Inventions Exhibition, 225

Sée (German), "Bacillary Phthisis of the Lungs," 341

Seismological Society of Japan, 299

Seismology, Fouqué's Electrical Apparatus for Registering Propagation of Earthquakes, 254

Seismology, Recent Progress in, Prof. Rockwood, 609

Selenium, the Action of Light in Diminishing the Electrical Resistance of, Shelford Bidwell, 167, 215

Self-Induction in Relation to Certain Experiments of Mr. Willoughby Smith and to the Determination of the Ohm, Lord Rayleigh, F.R.S., 7

Selwyn (Alfred R. C., F.R.S.), Geological and Natural History Survey of Canada, 242

Senex, "Speed" and "Velocity," 78

Sense, Common, of the Exact Sciences, W. K. Clifford, Prof. P. G. Tait, 124

Sense of Colour, Margaret Heaton, 626

Severn Tunnel, Completion of, 460

Sewers, Disinfection of, Dr. Italo Giglioli, 415

Sexton (Samuel), Value of the Testimony to the Aurora-Sound, 625

Shad-Rearing in United States, 112

Shallow Seas, Influence of Wave-Currents on the Fauna of, Arthur R. Hunt, 547

Shaw (Prof. H. S. Hele): a Self-Recording Stress and Strain Indicator, 70; appointed Professor of Engineering at University College, Liverpool, 279

Shell-Work: Miss A. W. Buckland on American Shell-Work and its Affinities, 587

Shot-Firing in Mines: W. Galloway, 596; Prof. C. G. Kreischer, 596

Shrubsole (W. H.), Foul Water, 223

Siam, Silk-Culture in, Archer, 611

Siberia, Eastern, Trilobites in, 208

Siemens's (Frederick) Gas Lamps, 247

Siewers (Carl), Photographing the Aurora Borealis, 29; Translation of Tromholt's Aurora Borealis, 274

Sight, Long, A. Shaw Page, 103

Signs, Language of, used by Oriental Traders, J. Menges on, 231

Silesian Freshwater Fauna, Dr. O. Zacharias, 160

Silk, the Analysis of, Dr. H. A. Bayne, 258

Silk-Culture in Siam, Archer, 611

Silver-Lead Deposits of Eureka, Nevada, J. S. Curtis, 50

Sitzungsberichte der Naturwissenschaftlichen Gesellschaft Isis, 214

Skin, the, Dr. Blaschko, 544: Dr. Lassar's Microscopic Preparations of Skin of Lichen Ruber Patient, 544

Sky-Glows, 147; Dr. F. A. Forel, 173; Robt. C. Leslie, 245

Sleep: Do Fish Sleep?, W. A. Carter, 580

Sleepers (Metal), the Question of, 401

Slide Rule, C. V. Boys, 627

Smell, Physiology of the Sense of, Herr Aronsohn, 520

Smith (J. Lawrence), "Original Researches in Mineralogy and Chemistry," 3

Smith (Col. Murdoch), appointed Director of the Edinburgh Science and Art Museum, 10

Smith (Percy), Causes of Liability of Certain Trees to be Struck by Lightning, 494

Smith (Willoughby), Self-Induction in Relation to Certain Experiments of, and to the Determination of the Ohm, Lord Rayleigh, F.R.S., 7

Smith (Worthington G.), Hail Circles, 29

Smithsonian Institution, 374

"Smokeless Houses and Manufactories," Thos. Fletcher, 134

Smyrna, Earthquake in, 85

Smyth (Prof. C. Piazzi), an Earthquake Invention, 213, 625

Snow, Milne and, Notes on the Kurile Islands, 135

Snow-Storm in Austria, Terrible, 62

Society of Arts, 110; Medals of, 181

Sohncke (Prof. L.), on the Origin of Thunderstorm Electricity, 406

Solar Corona, P. Tacchini's Observations on, 359

Solar Eclipses, Central, in New Zealand, 86

Solar Maculae, &c., Distribution in Latitude of, Signor Tacchini, 120

Solar Radiation, the Recording of the Direct Intensity of, 502

Solar Spectrum, New Map of the, L. Thollon, 519

Solar Spot, on the Cyclonic Character of the, Faye, 495

Sole, Male, is not Unknown, Francis Day, 78

Solid Electrolytes, Prof. Silvanus P. Thompson, 366, Shelford Bidwell, 391

Solomon Islands, Anthropological Notes on the Natives of, 216

Solothurn, Enormous Swarms of Ants at, 515

Solubility of Salt Mixtures, F. Rüdorff, 519

Solution, B. A. Report on, 529

Sorbonne, the New, 328

Sorby (H. C., F.R.S.), on the Structure of Iron and Steel, 39

Sorensen's (Capt.) Visit to Spitzbergen, 113

Soret (J. L.), "Sur le Diapason," 9

Soroloff's Analyses of Water of Neva, 13

Sound, Fallacy of the Present Theory of, Henry A. Mott, Jun., Dr. W. H. Stone, 75; Transmission of, Prof. W. E. Ayerton, F.R.S., 575

South Kensington, the School of Science at, 327

Southern Stars, Catalogue of 1000, 636

Sowerby's Whale, on Some Points in the Anatomy of, Prof. Turner, 560

Spaltalze, die, Dr. W. Zopf, 364

Spectra, Researches on the Relation between the Molecular

Structure of Carbon Compounds and their Absorption, Prof. W. N. Hartley, F.R.S., 93  
 Spectra Produced in Glass by Scratching, E. F. J. Love, 270  
 Spectral Images Produced by a Rotating Vacuum-Tube, on Certain, Shelford Bidwell, 30; Dr. Henry Muirhead, 55  
 Spectro-Photometer, a New, Dr. König, 191  
 Spectroscope, a New Stellar, C. V. Zenger, 543  
 Spectroscopic Observations on Dissolved Cobaltous Chloride, Dr. W. J. Russell, F.R.S., 143  
 Spectroscopy, Radiant Matter, W. Crookes, F.R.S., and M. Lecoq de Boisbaudran, 283  
 Spectrum Analysis: Prof. Thalén on the Lines of Iron, 253; an Advance in the Theory of Spectral Lines, Dr. Kayser, 312; Janssen's Experiments on the Influence of Gases in, 400; Spectral Photometric Researches on Some Photographic Sensitisers, 519; Ultra-Violet Spark Spectra Emitted by Metallic Elements, 529; New Map of the Solar Spectrum, L. Thollon, 519  
 Speed and Velocity, 29, 78  
 Spermatozoids, Dr. Biondi on the Origin of the, 544  
 Spheroidal State of Liquids, the, Luvini, 635  
 Spinoza (B. de), Reprint of his Work on the Rainbow, 30  
 Spiracle of Fishes in its Relation to the Head as Developed in the Higher Vertebrates, Prof. Cleland, 561  
 Spitzbergen, Capt. Sorensen's Visit to, 113  
 Sponges, the Australian, R. von Lendenfeld, 639  
 Sporer (Dr.), on Whirlwinds, 239  
 Sprengel (Dr. H., F.R.S.), the Hell Gate Explosion and Racka-rock, 625  
 Square Bamboo, W. T. Thiselton Dyer, F.R.S., 391  
 Stadia of the Earth's History, the, M. Faye, 132  
 Staiths, Superstitions of the Fishermen at, 541  
 Staminody of Petals, J. C. Costerus, 53  
 Standard Pitch, 9  
 Standards of White Light, Discussion on, 537  
 Stanley (Henry M.), the Congo, 154  
 Stanley (Sand. S.), Stonehenge, 574  
 Stanley (W. F.), a New Form of Protractor and Goniometer, 402; on Portable Scale of Proportions of Human Body, 586  
 Starch in Plants, Notes on Experiments as to the Formation of, under the Influence of the Electric Light, M. Ward, 563  
 Stars: Binary, 162; Binary, 70 Ophiuchi, 402; Double Stars, 86, 610; Double-Star 19 (Hev.) Camelopardi, 183; Variable, 554; J. E. Gore, 180; Variable-Star V Cygni, 610; the New Star in Andromeda, 460, 465; Lord Rosse, F.R.S., 465; Dr. William Huggins, F.R.S., 495; W. F. Denning, 465; J. Edmund Clark, 499; A. A. Common, F.R.S., 522; Geo. M. Seabroke, 523; Dr. Sophie Tromholt, 579; on the Determination of Time by Corresponding Heights of Different Stars, Prof. Zinger, 63; Application of Photography to Mapping of, Mouchez, 70; Stars with Spectra of the Third Type, 610; Catalogue of 1000 Southern Stars, 636  
 State Aid to Science, Public Opinion and, 497  
 Statigrams, J. F. Heyes, 597  
 Stations, High-Level, Dr. A. Woeikof, 54  
 Statistical Society, Jubilee of the, 188  
 Statistics, U.S. Industrial, 369  
 Stature, Hereditary, Francis Galton, F.R.S., on, 507  
 Steam Indicator, Prof. Osborne Reynolds, F.R.S., on the, 137  
 Steam Traffic, Direct, between Sea and Cologne, Opening of, 164  
 Steel and Iron, on the Structure of, H. C. Sorby, F.R.S., 39  
 Steel Trade, Rise and Progress of the Scotch, James Riley, 429  
 Stellar Spectroscope, a New, C. V. Zenger, 543  
 Sternum in Birds, on the Development of the, Miss Beatrice Lindsay, 540  
 Stevenson (D. A.), Earthquake-Proof Buildings, 316  
 Steven on (D. A.), and Prof. C. Piazzi Smyth, an Earthquake Invention, 213  
 Stevin (Simon), Rare Mathematical Books by, 30  
 Stewart (Prof. Balfour, F.R.S.), Radiant Light and Heat, 322, 389, 394, 413, 422, 550  
 Stewart (Prof. Balfour, F.R.S.), and W. W. Haldane Gee, Lessons in Elementary Practical Physics, 339  
 Stockholm: Zoological Garden in, 110; Academy of Sciences of, 192, 312, 592; Meteor near, 230, 515; Meteorological Phenomena at, 279; After-Sunglow in, 635  
 Stokes (Prof. G. G., F.R.S.), Iridescent Crystals of Chlorate of Potash, 224; on Light as a Means of Investigation, Prof. P. G. Tait, 361  
 Stokes-Wats in Spark Apparatus, 208  
 Stone (Dr. W. H.), the Fallacy of the Present Theory of Sound, Henry A. Mott, Jun., 75; International Exhibition, Music Loan Collection, 174  
 Stone Age, Articles Discovered at Breonio Verone-e, 47; Discovery of a Cemetery of the, 401  
 Stone Axes, Perak, A. Hall, 626  
 Stone Implements (Pre-historic) of Eastern Egypt, Dr. Schweinfurth, 161  
 Stone, Lenape; or, the Indian and the Mammoth, H. C. Mercer, Dr. E. B. Tylor, F.R.S., 593  
 Stone Weapons in the Neolithic Age, the Worship of, Prof. Pigorini, 48  
 Stonehenge, Meteoric Cycle and, R. Edmonds, 436  
 Stonehenge, Sand. S. Stanley, 574  
 Stonyhurst College Observatory, 300  
 Storms on Atlantic Coast of United States, 427  
 Straits Settlements, Timbers of the, Howard Newton, 160  
 Strain Indicator, a Self-Recording, Prof. H. S. Hele Shaw, 70  
 Strasburg Scientific Congress, 493  
 Strawberry, a Quinquefoliate, E. Lewis Sturtevant, 126  
 Stream-Lines of Moving Vortex-Kings, Prof. Lotze, 263  
 Stretched India-rubber, on the Behaviour of, H. G. Madan, 625  
 Stroumbo (D. S.), Experiments on Double Refraction, 432  
 Struthers (Prof.), on the Development of the Vertebrae of the Elephant, 500; on the Development of the Foot of the Horse, 560; on the Cervical Vertebrae of the Greenland Right-Whale, 560; on the Tay Whale (*Mesaptera longimanus*) and other Whales, 560  
 Sturtevant (E. Lewis), a Quinquefoliate Strawberry, 126  
 Styria, Earthquake in, 231, 428  
 Sub-Lacustrine Ravines of Glacial Streams, F. A. Forel, 640  
 Sugar Cane, Animal Parasites of the, H. Ling Roth, 268  
 Sulphur, Atomic Refraction of, in Various Compounds, Nasini, 87  
 Sulphurous Acid in Town Atmospheres, M. G. Witz, 144  
 Sunac in South Australia, Cultivation of, 462  
 Sun, on the Hydrogenic Protuberances of the, Prof. Tacchini, 48  
 Sun, Recent Total Eclipse of the, 631  
 Sun's Light, on the Depth to which it will Penetrate into the Sea, Fol and Sarasin, 132  
 Sun-Glows—Time—Thunderbolts—Vision, Antoine d'Abbadie, 29  
 Sunlight and the Earth's Atmosphere, S. P. Langley, 17, 40  
 Sunsets, R. McLachlan, F.R.S., 437; Red Rays after, Geo. F. Burder, 466; a Remarkable, Paul A. Cobbold, 626; Prof. Kiessling's Investigations into the Origin of the Late Sunset Glows, J. Edmund Clark, 637  
 Sunspots, Tacchini's Observations of, 144  
 Superstitions of the Stai-hs Fishermen, 541  
 Sur l'Origine du Monde, M. Faye, 132  
 Surface-Tensions of Liquids, on Calculating the, by Means of Cylindrical Drops or Bubbles, Prof. Pirie, 536  
 Surface Tension of Water which contains a Gas Dissolved in it, Prof. Pirie, 536  
 Surinam, Dr. Ten Kate's Expedition to, 164  
 Surinam River, Dutch Expedition to, 356  
 Sutherland (William), Terminology of the Mathematical Theory of Electricity, 391  
 Swallows: Migration of, 161; a Query as to, 197; Wm. Watts, 223; a White Swallow, Mary Briggs, 500  
 Sweden: Geographical Education in, 15; Forest Cultivation from Seeds in, 230; the Herring Fisheries of, 230; Mirage in, 231, 541, 552; Mirage on Lake Wettern, 279; Cyclones in, 355; Fossil Forests in, 402; the Highest Mountain in, 404; Early Departure of Migratory Birds, 427

Switzerland : Prehistoric Remains in, 84 ; Recent Earthquake in, F. A. Forel, 295 ; Meteorology in, 426

Sword, on the Japanese, Herr Hütterott, 635

Sydney, New South Wales : Linnean Society, 238 ; MacLeay Fellowships at the University of, 230

Sylvester (Prof. J. J., F.R.S.), on a New Example of the Use of the Infinite and Imaginary in the Service of the Finite and Real, 103, 271 ; on Certain New Terms, or Terms used in a New or Unusual Sense in Elementary Universal Geometry, 576

Symons (G. J., F.R.S.), on Trees Struck by Lightning in Richmond Park, 460 ; "British Rainfall for 1884," 463

Tacchini (Prof. P.), on the Hydrogenic Protuberances of the Sun, 48 ; Distribution in Latitude of Solar Maculae, 120 ; Observations of Sunspots, 144 ; Solar Observations in 1883, 359 ; Observations of the Solar Corona made on Mount Etna, 359

Tait (Prof. P. G.), W. K. Clifford's "Common Sense of the Exact Sciences," 124, 196 ; Prof. Clifford, 173 ; "Properties of Matter," Lord Rayleigh, F.R.S., 314 ; Prof. G. G. Stokes on Light as a Means of Investigation, 361

Tar and Ammonia from Blast Furnaces Fed with Raw Coal, the Recovery of, Wm. Jones, 430

Tasmania, Fish-Culture in, Saville Kent, 634

Taste, New Theory of the Sense of, Prof. J. Berry Haycraft, 562

Tattooing, Japanese, 566

Taylor (Dr. Wallace), Discoveries as to the Origin of Kakké Disease, 330

Taylor (W. C.), an Agricultural Note-Book, 623

Teaching University for London, 255

Technology, Report of Examinations in, 328

Technical Education, 328

Teeth, Artificial, Use of, by the Ancient Romans, 13

Teeth, Human, Anomalies of Structure in, Prof. Busch, 71

Telegraph Conference, International, at Berlin, 253, 353

Telegraph Lines in Corea, Proposed, 427

Telegraphic Perturbations, a Yearly and a Daily Period in, Dr. Sophus Tromholt, 88

Telephone, a Mechanical, 298 ; W. J. Millar, 316

Telescope, or a Monochromatic, Lord Rayleigh, 22

Telescope Dome, Bischoffsheim's Floating, for Nice Observatory, 62

Tempel's Comet (1867 II.), 37, 356

Tempel-Swift Comet (1869-80), 112

Temperatures, Polar, Record of Lena, 16

Temperature of Water in Firth of Forth, H. R. Mill, 70

Temperature of the Sea and Air, Observations of the, made during a V. yage from England to the River Plate in the s.s. *Leibnitz*, J. Y. Buchanan, 126

Temperature-Sense, Donaldson's Observations on, 110

Temperature of Human Body, on the Influence of Cortex Cerebri on, Prof. Enlenburg, 496

Temperature of the Austrian Alps, the, Dr. Hann, 580

Temperature, Underground, 503

Temperature, on the Sequence of Mean, and Rainfall in the Climate of London, Dr. Courtney Fox, 536

Temperature, Low, on Night of August 31-September 1, Unprecedented, 495

Tenerife, Earthquake in, 300

Ten Kate (Dr. H. Z. C.), Expedition to Surinam, 164 ; "Reizen en Onderzoeken in Noord-Amerika," Dr. E. B. Taylor, F.R.S., 593

Terminology of the Mathematical Theory of Elasticity, W. J. Ibbetson, 76 ; William Sutherland, 391 ; Henry Muirhead, 437

Terms, on Certain New, or Terms used in a New or Unusual Sense in Elementary Universal Geometry, Prof. J. J. Sylvester, F.R.S., 576

Tertiary Man, M. de Mortillet, 494

Tertiary Rainbow, T. C. Lewis, 523, 626

Testimony to the Aurora-Sound, Value of the, Samuel Sexton, 625

Thalén (Prof.), the Lines of Iron, 253

Thames, Landlocked Salmon in the, 254

Theiler's Microscopes, 112

Theodolites, Cloud-Measurement by, 400

Theory of Light, Electro-Magnetic, Sir Wm. Thomson and Maxwell's, Prof. Geo. Fras. Fitzgerald, 4

Theory of Sound, Fallacy of the Present, Henry A. Mott, Jun., Dr. W. H. Stone, 75

Therapeutics, and Materia Medica, Text-Book of Pharmacology, Dr. T. Lauder Brunton, F.R.S., Prof. Arthur Gamgee, F.R.S., 337

Thermic Studies of the Aromatic Series, Berthelot, 592

Thermo-Chemistry to Explanation of Geological Phenomena, Application of, Dieulafoy, 592

Thermo-Electric Position of Carbon, J. Buchanan, 263

Thermometer, a Differential Resistance, T. C. Mendenhall, 567

Thermopiles, on the Thermodynamic Efficiency of, Lord Rayleigh, F.R.S., 536

Thibet Expedition, Col. Prjevalsky's, 493

Third International Geological Congress, 599

Thollon's (L.) New Map of the Solar Spectrum, 519

Thompson (D'Arcy W.), Systematic Position of the Chamæleon and its Affinities with the Dinosauria, 562

Thompson (Isaac C.), "Foul Water," 271

Thompson (Prof. Sylvanus P.), Rainbow Phenomena, 54 ; on a Model illustrating the Propagation of the Electro-Magnetic Wave, 70 ; Solid Electrolytes, 366

Thomson (Sir Wm., F.R.S.), and Maxwell's Electro-Magnetic Theory of Light, Prof. Geo. Fras. Fitzgerald, 4 ; "Mathematical and Physical Papers," Prof. Helmholtz, F.R.S., 25 ; on Constant Gravitational Instruments, 535

Thoroddsen (T.), a Lava Desert in the Interior of Iceland, 554

Thouar's Journey in Search of the Crévaux Expedition, 14

Thought, Pre-Existence and Post-Existence of, Dr. Hyde Clarke, 102

Thoulet (J.), Effect of Immersion of Solid Bodies in Saline Solutions, 87

Thouillier (Dr.), Monument to, 230

Thunderbolts—Time—Vision—Sunglows, Antoine d'Abbadie, 29

Thunderstorm in Paris, Terrific, 85 ; in Russia, Kłosowski, 160 ; of August 6, 1885, on a Remarkable Occurrence during the, W. H. Preece, F.R.S., 536 ; Thunderstorms and Air Pressure, W. Allen Hazen, 181 ; on the Origin of Thunderstorm Electricity, Prof. L. Sohncke, 406

Thyroid Gland, on the Development of the, Herr Pischelis, 496

Tidal Observations in Canada, 503

Tidal Observations, the Harmonic Observation of, 503

Tidal Streams, the Action on Metals of, (Gravimetric), Thos. Andrews, 189

Timbers of the Straits Settlements, Howard Newton, 160

Time, the Question of Civil and Astronomical, 245

Time—Thunderbolts—Vision—Sunglows, Antoine d'Abbadie, 29

Timiriazeff (C.), Colourless Chlorophyll, 342

Tissandier (Gaston), Balloon Ascent for Photographic Purposes, 182

Tonquin, Eccentricities of European Nomenclature of, 15 ; Travels in, 554

Topinard (Dr. P.), Anthropometric Instructions for Travellers, 615

Topography of the Pamir Region, Kosyakoff, 163

Topography of Italy under the Romans, the, 376

*Torpedo marmorata*, Occurrence of, off the Coast of Cornwall, Francis Day, 197

"Torresia," Proposed Name for British New Guinea, 357

Traquair (Dr. R. H., F.R.S.), a Preliminary Note on a New Fossil Reptile recently discovered at Spyne, near Elgin, 556

Traill (George William), "Monograph of the Algae of the Firth of Forth," 101

Traill (Thos. W.), Chain Cables and Chains, 572

Trans-Alay, Fauna of, 335

Translation, Wave of, in the Oceans of Water, Air, and Ether, J. Scott Russell, F.R.S., 546

Transmission of Sound, Prof. W. E. Ayrton, F.R.S., 575

Transvaal Gold Fields, the Geology of the, W. H. Penning, 190

Trécul, on Bochefontaine's Experiment on Origin of Cholera, 496

Trees, Causes of Liability to be Struck by Lightning of Certain, Percy Smith, 494  
 Tremble-terre du 26 Septembre, 1885, Prof. F. A. Forel, 574  
 Tresca (Henri), Death of, 181  
 Trewendt's "Encyklopädie der Naturwissenschaften," 515  
 Triassic Sandstone of Elgin, Presence of the Remains of Dicyonodon in the, Prof. J. W. Judd, F.R.S., 572  
 Trigonometrical Survey of India, on Levelling Operations of the Great, Major A. W. Baird, 536  
 Trilobites in Eastern Siberia, 208  
 Trimen (Dr.), Catalogue of the Flowering Plants and Ferns of Ceylon, 354  
 Trondhjem, Hugh Miller on Some Results of a Detached Survey of the Old Coast Lines near, 555  
 Trotter (Coutts), Recent Explorations in New Guinea, 611  
 Trout, Young, Destruction by Mosquitoes of, 515  
 Trowbridge (J.), a Standard of Light, 568  
 Truth, Guessings at, 152  
 Tschermak (Dr. Gustav), "Lehrbuch der Mineralogie," 3  
 Tube, Rotating Vacuum, on Certain Spectral Images Produced by a, Shelford Bidwell, 30  
 Tuberculosis of the Vine, L. de A. Corvo, 496  
 Tucker (R.), on the late Prof. Clifford's Papers and MS., 4 ; Prof. Clifford's Kinetic, 147  
 Tuckwell (Rev. W.), "Life of Frank Buckland," George Bompas, 385  
 Tumuli at Geinberg in Austria, 355  
 Tunis : Education in, 134 : the Water-Supply of the Desert of, 281  
 Turner (Prof. W.), on Some Points in the Anatomy of Sowerby's Whale, 560 ; on the Index of the Pelvic Brim as a Basis of Classification, 586  
 Tuttle's Comet, 13, 280, 301, 402  
 Twilight, J. Kiessling, 321  
 Two Generalisations, W. M. Flinders Petrie, 597  
 Tycho's Nova of 1572, 162  
 Tylor (Prof. E. B., F.R.S.), American Anthropology, 593  
 Tyndall (Prof. F.R.S.), his Lectures in the United States, 207  
 Typhoons : Characteristics of, 329 ; M. Faye on, 408 ; Average Velocities of, 463  
 Tyrolese Alps, New Meteorological Station on, 133

Ultra-Violet Spark Spectra Emitted by Metallic Elements, 529  
 Unconscious Bias in Walking, Manly Miles, 293  
 "Under the Rays of the Aurora Borealis," S. Tromholt, 274  
 Underground Temperature, 503  
 United States : Harvard College Observatory, 37 ; Commission of Fish and Fisheries for 1881-82, Reports of, J. T. Cunningham, 79 ; Shad-Rearing in, 112 ; Meteorology in, 181 ; Co-ordination of the Scientific Bureaus of the U.S. Government, 317 ; Cyclones in, 328 ; Economic Ornithology in, 329 ; Mineral Resources of the, A. Williams, 341 ; U.S. Industrial Statistics, 369 ; Mineral Products of the United States, 404 ; Storm on Atlantic Coast of, 427 ; Ornithology in, 461 ; Acclimatisation of Flat Fish in, 514 ; Education in the, 518 ; Agricultural Grasses of the, Dr. Geo. Vasey, Prof. W. Fream, 525 ; United States Coast and the Geodetic Survey, 572  
 Universal Gallery of the British Museum, Guide to the, (Natural History), L. Fletcher, 364  
 Universal Meridian, Dr. Janssen, 148, 200  
 University College, Professorship of Electrical Engineering at, 253  
 University College, Liverpool, 159  
 University College of North Wales, Calendar of, 608  
 University Intelligence, 21, 44, 90, 116, 141, 165, 188, 237, 309, 357, 407, 543, 614, 639  
 University of London, 289 ; New Departure for the, 265  
 University of Lund, 112

University, a Teaching, for London, 255  
 University, a Model, 367  
 University of Virginia, 134  
 Universities and Science, Sir Lyon Playfair on, 441  
 Unthinkable, the, Signor Bonatelli, 120  
 Upsala, Society of Science, 72 ; Collection of Eggs at the University of, 280  
 Uranus and Neptune, Satellites of, 553  
 Urine, Xanthine Bodies in, Dr. Salomon, 496

Vacuum-Tube, Rotating, on Certain Spectral Images produced by a, Shelford Bidwell, 30  
 Value of the Testimony to the Aurora-Sound, Samuel Sexton, 625  
 Variable Stars, 554 ; J. E. Gore, 180 ; V Cygni, 610  
 Vasey (Dr. Geo.), "Agricultural Grasses of the United States," Prof. W. Fream, 525  
 Vasomotor Centre in Cortex of Cerebrum, a, Dr. Raudnitz, 119  
 Vaux (W. S. W., F.R.S.), Death of, 181  
 Vegetable Substances, Guide for the Microscopical Investigation of, Dr. W. J. Behrens, 193  
 Vegetation, Evolution of, J. Clayton, 223  
 Vegetation of the Earth, A. Grisebach, W. Botting Hemsley, 315 ; Dr. W. Engelmann, 366  
 Vein-, Pulsation in the, 437 ; J. Hippisley, 389 ; Dr. J. W. Williams, 466  
 Velocity of Light, M. Wolf's Modification of Foucault's Apparatus for the Measurement of the, Albert A. Michelson, 6  
 Velocity, Speed and, 29 ; Senex, 78  
 Venus, the Transit of, 1882, Belgian Observations in Texas, 254  
 Verein für Naturkunde zu Mannheim, 463  
 Verhandlungen des Vereins für Naturwissenschaftliche Unterhaltung in Hamburg, 111  
 Verhandlungen der Gesellschaft für Erdkunde zu Berlin, 376  
 Verrill (Prof.), Longevity of Oysters out of Water, 494  
 Vertebræ, on the Development of the, Prof. Struthers, 560  
 Vesuvius, Eruption of, 11 ; the New Outburst of Lava from, H. J. Johnston-Lavis, 55, 108 ; Volcanic Phenomena of, 505  
 Vesta, Occultations of, 355  
 Veth (Dr. D.), Death of, 403  
 Victoria Hall Science Lectures, 514 ; Penny Science Lectures at the, 609  
 Vienna : Imperial Academy of Sciences, 24, 72, 192, 520 ; Geographical Society of, 429 ; Mittheilungen of the Geographical Society of, 356  
 Vincennes, Emigration of Eels at, 111  
 Vine, Tuberculosis of, L. de A. Corvo, 496  
 Vines (Sydney H.) and F. O. Bower, "A Course of Practical Instruction in Botany," 73  
 Vipan's (Capt.) Aquarium of Foreign Fishes at Wansford, 541  
 Virchow (Dr. H.), the Eye of the Frog, 519  
 Virginia, University of, McCormick Observatory, 13  
 Viscera of *Gymnotus electricus*, Prof. Cleland, 561  
 Viscosity of Ice, Some Experiments on, Prof. C. Lloyd Morgan, 16  
 Vision—Time—Thunderbolts—Sunglows, Antoine d'Abbadie, 29  
 Visitation of the Royal Observatory, Greenwich, 138  
 Vivisection, 141  
 Volcanoes : Volcanic Activity in Java, 401 ; Volcanic Phenomena of Vesuvius, 11, 506 ; Threatening State of Krakatao, 161 ; the Recent Volcanic Eruptions in Java, 181 ; Eruption of Cotopaxi, 375, 428  
 Voltaic Cell with a Solid Electrolyte, Shelford Bidwell, 345  
 Voltmeters, on the Winding of, Profs. Ayrton and Perry, 215  
 Volumetric Analysis for Testing Bioxides of Manganese, Paul Charpentier, 359  
 Vortex Atom Theory, on the Constitution of the Luminiferous Ether and the, Prof. W. M. Hicks, 537  
 Vortex-Rings, Prof. Lodge on Stream-Lines of Moving, 263

Vuibert's *Journal de Mathématiques Élémentaires*, 609  
 Vulcanology and Seismology, Recent Progress in, Prof. Rockwood, 609

Wales, Fire at University College, 254  
 Walker (Alf. O.), Rainfall of N.W. England, 271  
 Walker (General J. T., F.R.S.), Opening Address in Section E (Geography), at the British Association, 481  
 Walking, Unconscious Bias in, Manly Miles, 293  
 Wallace (Alfred R.), "A Naturalist's Wanderings in the Eastern Archipelago," Henry O. Forbes, 218  
 Wansford, Capt. Vipan's Aquarium of Foreign Fishes at, 541  
 Ward (M.), Notes on Experiments as to the Formation of Starch in Plants under the Influence of the Electric Light, 563  
 Warren (Wm. F., LL.D.), "Paradise Found," 28  
 Warrand (Col. Wm. E.), Black and White, 245  
 Washington Hydrographical Bureau, 110  
 Washington Philosophical Society, 300  
 Water in Firth of Forth, Temperature of, H. R. Mill, 70  
 Water, the Removal of Micro-Organisms from, P. F. Franklin, 262  
 Water, Foul, W. H. Shrubsole, 223; Herbert C. Chadwick, 245; Isaac C. Thompson, 271  
 Water, Monkeys and, Jerry Barrett, 367  
 Water-Birds of North America, Prof. S. F. Baird, Dr. T. M. Brewer, and R. Ridgway, 521  
 Water-Supply, Report of Committee on Decrease of, 23  
 Watering the Coal-Dust in Mines, W. Galloway, 171  
 Waterspouts in Mexico and Alsace, 133, 134  
 Watson (W.), Pitcher Plants, 341; a Correction, 367  
 Watt (Alex.), "History of a Lump of Gold from the Mine to the Mint," 340  
 Watt (J. B. A.), Electrical Phenomenon, 316  
 Watts (Henry) Fund, the, 61  
 Watts (Wm.), Swallows, 223  
 Watts (W. W.), the Geology of the Breidden Hills, 310  
 Wave of Translation in the Oceans of Water, Air, and Ether, J. Scott Russell, F.R.S., 546  
 Wave-Currents, Influence of, on the Fauna of Shallow Seas, Arthur R. Hunt, 547  
 Waves, Ocean, Measurements of, 110  
 Wax, Chinese Insect White, A. Hosie, 562  
 Weather: Cyclones in United States, 328; Rainy Summer in Eastern Asia, 461; Unprecedented Fall of Temperature on Night of August 31-September 1, 495; Inclement Weather in Iceland and Norway, 427, 542; Forecasting by Means of Weather Charts, 392  
 Webb (Rev. T. W.), Death of, 84; Obituary Notice of, G. F. Chambers, 126  
 Webster (H. A.), What has been done for the Geography of Scotland, and what remains to be done, 565  
 Wedding (Dr. Hermann), on the Properties of Malleable Iron, 40  
 Weights and Measures Act, Proceedings under the, 634  
 Weiss (Prof.), on the Present State of Computations of Orbits of Comets, 516  
 Weissmann (Lieut.), Discovery of Fall of Kassai River into Lake Leopold II., by, 495, 554, 581  
 Weldon (Walter, F.R.S.), Death of, 552  
 Wellington College Natural Science Society, 208  
 Welsbach (Dr. C. A. von), the "Decomposition" of Didymium, 435  
 Wernicke's (Dr.), Experiments on the Reflection of Light, 312  
 Wesson (Edward), Niagara Falls: the Rate at which they Recede Southwards, 229  
 West Kent Natural History, Microscopical, and Photographic Society, 402  
 Western Islands?, Are there Rabbits in the, Herbert Ellis, 575  
 Weyl (Dr.), Nitrates in Human Body, 191; Cholesterin, 544  
 Whale, Rudolph's, Observations on, Dr. R. Collett, 374; on the Cervical Vertebrae of the Greenland Right, Prof. Struthers, 560; on Some Points in the Anatomy of Sowerby's, Prof. Turner, 560; on the Tay Whale and Others Recently Obtained in the District, Prof. Struthers, 560

Wheat, Experiments to Ascertain most Productive Variety of, P. P. Dehérain, 496  
 Wheat Production in India, Prof. John Wrightson, 79  
 Whirlwinds, Prof. Spörer on, 239  
 Whitaker (W.), on Deep Boring, at Chatham—a Contribution to the Deep-Seated Geology of the London Basin, 555  
 White, Black and, Col. Wm. E. Warrand, 245  
 White Light, B. A. Report on Standards of, 529; Discussion on Standards of, 537  
 White Swallow, a, Mary Briggs, 500; Alex. Anderson, 523; Hubert Airy, 523; J. L. Bozward, 523  
 Whitechapel Fine Art Exhibition, 160  
 Whitefish, Acclimatisation of, 85, 402, 515  
 Whitehouse (Cope), Projected Restoration of the Reian Moors, and the Province, Lake, and Canals ascribed to the Patriarch Joseph, 565  
 WildBees, E. Brown, 6  
 Will, Motor Centres of the Brain and the Mechanism of the, Victor Horsley, 377  
 Williams (A.), Mineral Resources of the United States, 341  
 Williams (Dr. J. W.), Pulsation in the Veins, 466  
 Williams College, Lyceum of Natural History, 12  
 Williamson (Prof. W. C., F.R.S.), Evolution of Phanerogams, 364  
 Willoughby (Edward F.), Hygiene, 221  
 Wilson (Dr. D.), on the Manifestation of the Aesthetic Faculty among Primitive Races, 259  
 Wilson (Thomas), on a New Man of Mentone, 588  
 Winshurst Induction Machine, Notes on the Action of the, G. B. Buckton, F.R.S., 51  
 Wind in Fertilisation, the Role of, M. Alluard, 134  
 Wind Currents, Upper, over the Equator, Hon. Ralph Abercromby, 624  
 Windfall, Possible, for Science, Dr. Hyde Clarke, 313, 342  
 Wingless Birds, Dr. H. Woodward, F.R.S., 46  
 Wires, on Cooling of, in Air and Vacuum, J. T. Bottomley, 536  
 Witz (M. G.), Sulphurous Acid in Town Atmospheres, 144  
 Woicikof's "Climates of the Globe," 11; High-Level Meteorological Stations, 54  
 Wolf's (M.), Modification of Foucault's Apparatus for the Measurement of the Velocity of Light, Albert A. Michelson, 6  
 Women Students at Zurich, 635  
 Woodpeckers Nesting in Ants' Nests, 52  
 Woodward (Dr. H., F.R.S.), Wingless Birds, 46; Testimonial to, 84, 252  
 Wool-Fibre, Structure of the, in its Relation to the Use of Wool for Technical Purposes, Dr. F. H. Bowman, 266  
 Worsaae (Prof.), Death of, 375  
 Wortley (Col. H. Stuart), Resting Position of Oysters, 625  
 Wrightson (Prof. John): Field Experiments at Rothamsted, 58; Wheat-Production in India, 79; Bulletin of the Bussey Institution, 195; British Dairy Farming, James Long, 571  
 Wyoming, the Deinocerata of, Prof. O. C. Marsh, Arch. Geikie, F.R.S., 97

Xanthine Bodies in Urine, Dr. Salomon, 495

Varrell's (William) History of British Birds, New Edition of, 363  
 Year Book of Scientific and Learned Societies for 1885, 231  
 Yolland (Col., F.R.S.), Death and Obituary Notice of, 461  
 Yoshida (Hikorokuro), the Chemistry of Japanese Lacquer, 190

Zacharias (Dr. O.), Silesian Freshwater Fauna, 160  
 Zeitschrift der Gesellschaft für Erdkunde zu Berlin, 403  
 Zeitschrift für Wissenschaftliche Zoologie, 91, 591  
 Zenger (C. V.), a New Stellar Spectroscope, 543  
 Zinger (Prof.), on the Determination of Time by Corresponding Heights of Different Stars, 63  
 Zoolological Gardens, Additions to, 13, 37, 63, 85, 112, 134, 162, 183, 209, 231, 254, 330, 355, 376, 402, 428, 463, 495, 516, 542, 553, 571, 609, 636

Zoological Garden for Christiania, 553  
Zoological Garden in Stockholm, 110  
Zoological Exploration of the Indian Seas, 35  
Zoological Laboratory, the Chesapeake, 400  
Zoological Record for 1883, 2  
Zoological Research, 43  
Zoological Society, 46, 118, 143, 238  
Zoological Society of Philadelphia, 85  
Zoological Station at Naples, 505

Zoological Subjects, Davis Lectures on, 132  
Zoology: Prof. Gill's Account of Progress in, 85; Elementary Text-Book of, Dr. C. Claus, 122; of Dr. Riebeck's "Chittagong Hill Tribes"—the Gayal and Gaur, W. T. Blanford, F.R.S., 243; a New Frugivorous Bat, 374; Miss Pereyaslavtseff on the Development of Rotifers, 579  
Zopf (Dr. W.), die Spaltpilze, 364  
Zöppritz (Dr.), Death of, 14  
Zurich University, Women Students at, 635